

=> d his nofil

(FILE 'HOME' ENTERED AT 10:37:56 ON 01 NOV 2006)

FILE 'HCAPLUS' ENTERED AT 10:38:06 ON 01 NOV 2006
E US2004-828800/APPS

L1 1 SEA ABB=ON PLU=ON US2004-828800/AP
SEL RN

FILE 'REGISTRY' ENTERED AT 10:38:21 ON 01 NOV 2006

L2 10 SEA ABB=ON PLU=ON (13963-58-1/BI OR 24979-97-3/BI OR
25190-06-1/BI OR 26471-62-5/BI OR 26764-44-3/BI OR 52625-13-5/B
I OR 56-81-5/BI OR 71698-13-0/BI OR 75-65-0/BI OR 7646-85-7/BI)

FILE 'HCAPLUS' ENTERED AT 10:38:24 ON 01 NOV 2006

L3 1 SEA ABB=ON PLU=ON L1 AND L2

D IALL HITSTR
E POLYETHER POLYOL/CT
E E4+ALL
E E2+ALL

L4 959 SEA ABB=ON PLU=ON "POLYETHERS (L) HYDROXY-CONTG."+PFT/CT
E POLYOXYALKYLENES (L) HYDROXY-CONTG.+ALL/CT

L5 162 SEA ABB=ON PLU=ON "POLYOXYALKYLENES (L) HYDROXY-CONTG."+PFT/C
T
E POLYURETHANES, PREPARATION/CT
E E3+ALL

L6 8165 SEA ABB=ON PLU=ON POLYURETHANES, PREPARATION/CT

FILE 'REGISTRY' ENTERED AT 11:27:08 ON 01 NOV 2006

E POLYUR/PCT

FILE 'HCAPLUS' ENTERED AT 11:27:08 ON 01 NOV 2006

FILE 'REGISTRY' ENTERED AT 11:27:12 ON 01 NOV 2006

E POLYUR/PCT

L*** DEL 74063 S E6-7

L7 70593 SEA ABB=ON PLU=ON "POLYURETHANE FORMED"/PCT

FILE 'HCAPLUS' ENTERED AT 11:28:04 ON 01 NOV 2006

L8 21226 SEA ABB=ON PLU=ON L7(L)PREP+NT/RL

L9 25000 SEA ABB=ON PLU=ON L6 OR L8

E SYNDIOTACTIC/CT
E SYNDIOTACTIC TRI/CT
E TRIAD/CT

L10 295 SEA ABB=ON PLU=ON SYNDIOTAC?(S)TRIAD

L*** DEL 1 S L9 AND L10

L*** DEL 1 S L1 AND L11

L11 1678 SEA ABB=ON PLU=ON L9 AND L2

FILE 'REGISTRY' ENTERED AT 11:40:03 ON 01 NOV 2006

L12 0 SEA ABB=ON PLU=ON L7 AND L2

L13 793 SEA ABB=ON PLU=ON "SYNDIOTACTIC"
DIS

L14 STR

L15 2 SEA SUB=L13 SSS SAM L14

L16 80 SEA SUB=L13 SSS FUL L14

FILE 'HCAPLUS' ENTERED AT 11:42:17 ON 01 NOV 2006

L17 1 SEA ABB=ON PLU=ON L16 AND L9

D SCA

L18 1 SEA ABB=ON PLU=ON L13 AND L9
 L19 9012 SEA ABB=ON PLU=ON L4 OR L5 OR POLYETHERPOLYOL? OR POLYETHER(2
 A) (POLYOL OR POLYALCOHOL) OR POLYOXYALKYLENE POLYOL
 L20 9 SEA ABB=ON PLU=ON L19 AND (SYNDIOTAC? OR TRIAD OR STEREOREG?)
 L21 1967 SEA ABB=ON PLU=ON L9 AND L19

FILE 'REGISTRY' ENTERED AT 11:47:41 ON 01 NOV 2006

L*** DEL 8646 S (ZN AND CO)/ELS

FILE 'HCAPLUS' ENTERED AT 11:47:57 ON 01 NOV 2006

L*** DEL 5999 S L22

L22 424 SEA ABB=ON PLU=ON L21 AND CAT/RL

FILE 'REGISTRY' ENTERED AT 11:49:02 ON 01 NOV 2006

L23 196933 SEA ABB=ON PLU=ON ZN/ELS
 L24 366881 SEA ABB=ON PLU=ON CO/ELS
 L25 161837 SEA ABB=ON PLU=ON L24 AND NC=1
 L26 205044 SEA ABB=ON PLU=ON L24 NOT L25

FILE 'HCAPLUS' ENTERED AT 11:49:36 ON 01 NOV 2006

L27 38 SEA ABB=ON PLU=ON L21 AND L23(L)CAT/RL AND (L25 OR L26) (L)CAT/RL

E KIM I/AU

L28 2317 SEA ABB=ON PLU=ON ("KIM I"/AU OR "KIM I A"/AU OR "KIM I B"/AU OR "KIM I C"/AU OR "KIM I CHEONG"/AU OR "KIM I D"/AU OR "KIM I E"/AU OR "KIM I G"/AU OR "KIM I GON"/AU OR "KIM I GWON"/AU OR "KIM I H"/AU OR "KIM I HO"/AU OR "KIM I HOON"/AU OR "KIM I HUN"/AU OR "KIM I HWA"/AU OR "KIM I I"/AU OR "KIM I J"/AU OR "KIM I JONG"/AU OR "KIM I JUN"/AU OR "KIM I K"/AU OR "KIM I KI HONG"/AU OR "KIM I M"/AU OR "KIM I N"/AU OR "KIM I P"/AU OR "KIM I R"/AU OR "KIM I S"/AU OR "KIM I SEOP"/AU OR "KIM I SU"/AU OR "KIM I SUN"/AU OR "KIM I T"/AU OR "KIM I TAE"/AU OR "KIM I U"/AU OR "KIM I W"/AU OR "KIM I Y"/AU OR "KIM I Y S"/AU OR "KIM I YEOB"/AU OR "KIM I YEONG"/AU OR "KIM I YEOP"/AU OR "KIM I YONG"/AU OR "KIM I YOUNG"/AU OR "KIM I YOUNG EUN"/AU OR "KIM IL YONG"/AU OR "KIM IL"/AU OR "KIM IL BAE"/AU OR "KIM IL BOK"/AU OR "KIM IL BONG"/AU OR "KIM IL BOO"/AU OR "KIM IL BUNG"/AU OR "KIM IL C"/AU OR "KIM IL CHAN"/AU OR "KIM IL CHEOL"/AU OR "KIM IL CHOL"/AU OR "KIM IL CHOOL"/AU OR "KIM IL CHUL"/AU OR "KIM IL DAE"/AU OR "KIM IL DEOK"/AU OR "KIM IL DO"/AU OR "KIM IL DONG"/AU OR "KIM IL DOO"/AU OR "KIM IL DU"/AU OR "KIM IL GI"/AU OR "KIM IL GON"/AU OR "KIM IL GOO"/AU OR "KIM IL GU"/AU OR "KIM IL GUK"/AU OR "KIM IL GWAN"/AU OR "KIM IL GWANG"/AU OR "KIM IL GWEON"/AU OR "KIM IL GWON"/AU OR "KIM IL GYEONG"/AU OR "KIM IL GYOON"/AU OR "KIM IL GYU"/AU OR "KIM IL HAE"/AU OR "KIM IL HAK"/AU OR "KIM IL HAN"/AU OR "KIM IL HEE"/AU OR "KIM IL HO"/AU OR "KIM IL HONG"/AU OR "KIM IL HOON"/AU OR "KIM IL HWA"/AU OR "KIM IL HWAN"/AU OR "KIM IL HYEOK"/AU OR "KIM IL HYEON"/AU OR "KIM IL HYEONG"/AU OR "KIM IL HYONG"/AU OR "KIM IL HYOUNG"/AU OR "KIM IL HYUK"/AU OR "KIM IL HYUN"/AU OR "KIM IL HYUNG"/AU OR "KIM IL J"/AU OR "KIM IL JAE"/AU OR "KIM IL JANG"/AU OR "KIM IL JIN"/AU OR "KIM IL JO"/AU OR "KIM IL JONG"/AU OR "KIM IL JOO"/AU OR "KIM IL JOONG"/AU OR "KIM IL JU"/AU OR "KIM IL JUNG"/AU OR "KIM IL K"/AU OR "KIM IL KI"/AU OR "KIM IL KON"/AU OR "KIM IL KU"/AU OR "KIM IL KWANG"/AU OR "KIM IL KWEON"/AU OR "KIM IL KWON"/AU OR "KIM IL KWUN"/AU OR "KIM IL E LEE S/AU

L29 3051 SEA ABB=ON PLU=ON ("LEE S"/AU OR "LEE S H"/AU OR "LEE S H
D"/AU OR "LEE S H JR"/AU OR "LEE S H K"/AU OR "LEE S H S"/AU
OR "LEE S H TONY"/AU OR "LEE S H YI"/AU OR "LEE SANG"/AU OR
"LEE SANG H"/AU OR "LEE SANG HYUN"/AU)
E AN J/AU

L30 82 SEA ABB=ON PLU=ON ("AN J"/AU OR "AN JUN"/AU OR "AN JUN
TAE"/AU OR "AN JUN TAI"/AU)

L31 29 SEA ABB=ON PLU=ON (L28 AND (L29 OR L30)) OR (L29 AND L30)

L32 5420 SEA ABB=ON PLU=ON (L28 OR L29 OR L30)

L33 7 SEA ABB=ON PLU=ON L32 AND POLYETHER AND POLYOL

L34 9 SEA ABB=ON PLU=ON L32 AND SYNDIOTAC?

L35 7 SEA ABB=ON PLU=ON L32 AND TRIAD

L36 6 SEA ABB=ON PLU=ON L32 AND STEREOREG?

L37 50 SEA ABB=ON PLU=ON L31 OR (L33 OR L34 OR L35 OR L36)

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 12:09:50 ON 01 NOV 2006

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FILE COVERS 1907 - 1 Nov 2006 VOL 145 ISS 19

FILE LAST UPDATED: 31 Oct 2006 (20061031/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d que 120

L4	959	SEA FILE=HCAPLUS ABB=ON	PLU=ON	"POLYETHERS (L) HYDROXY-CONTG. "+PFT/CT
L5	162	SEA FILE=HCAPLUS ABB=ON	PLU=ON	"POLYOXYALKYLENES (L) HYDROXY-CONTG."+PFT/CT
L19	9012	SEA FILE=HCAPLUS ABB=ON	PLU=ON	L4 OR L5 OR POLYETHERPOLYOL? OR POLYETHER(2A) (POLYOL OR POLYALCOHOL) OR POLYOXYALKYLENE POLYOL
L20	9	SEA FILE=HCAPLUS ABB=ON	PLU=ON	L19 AND (SYNDIOTAC? OR TRIAD OR STEREOREG?)

=> d que 127

L4	959	SEA FILE=HCAPLUS ABB=ON	PLU=ON	"POLYETHERS (L) HYDROXY-CONTG. "+PFT/CT
L5	162	SEA FILE=HCAPLUS ABB=ON	PLU=ON	"POLYOXYALKYLENES (L) HYDROXY-CONTG."+PFT/CT
L6	8165	SEA FILE=HCAPLUS ABB=ON	PLU=ON	POLYURETHANES, PREPARATION/CT
L7	70593	SEA FILE=REGISTRY ABB=ON	PLU=ON	"POLYURETHANE FORMED"/PCT
L8	21226	SEA FILE=HCAPLUS ABB=ON	PLU=ON	L7 (L) PREP+NT/RL
L9	25000	SEA FILE=HCAPLUS ABB=ON	PLU=ON	L6 OR L8
L19	9012	SEA FILE=HCAPLUS ABB=ON	PLU=ON	L4 OR L5 OR POLYETHERPOLYOL? OR POLYETHER(2A) (POLYOL OR POLYALCOHOL) OR POLYOXYALKYLENE POLYOL
L21	1967	SEA FILE=HCAPLUS ABB=ON	PLU=ON	L9 AND L19
L23	196933	SEA FILE=REGISTRY ABB=ON	PLU=ON	ZN/ELS
L24	366881	SEA FILE=REGISTRY ABB=ON	PLU=ON	CO/ELS
L25	161837	SEA FILE=REGISTRY ABB=ON	PLU=ON	L24 AND NC=1
L26	205044	SEA FILE=REGISTRY ABB=ON	PLU=ON	L24 NOT L25
L27	38	SEA FILE=HCAPLUS ABB=ON	PLU=ON	L21 AND L23 (L) CAT/RL AND (L25 OR L26) (L) CAT/RL

=> s 120 or 127

L38 44 L20 OR L27

=> d l38 ibib abs hitind hitstr 1-38

L38 ANSWER 1 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2006:899498 HCAPLUS Full-text
 TITLE: Study on the structure of low unsaturated
polyether polyols
 AUTHOR(S): Yang, Dong-mei; Fan, Zhong-yong; Tu, Jian-jun; Shi,
 Zheng-jin; Wang, Wei; Yu, Yin
 CORPORATE SOURCE: Department of Materials Science, Fudan University,
 Shanghai, 200433, Peop. Rep. China
 SOURCE: Fudan Xuebao, Ziran Kexueban (2006), 45(3), 380-384
 CODEN: FHPTAY; ISSN: 0427-7104
 PUBLISHER: Fudan Daxue Chubanshe
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese

AB The structures of propylene oxide-ethylene oxide copolymers, and polypropylene
 were investigated by FTIR, ¹H NMR, ¹³C NMR, MALDI-TOF-MS, and GPC. Two weak
 characteristic absorption peaks of polyoxopropyl were observed at 1 374 and 1
 010 cm⁻¹ by FTIR. The compns., mol. mass wts. and the mol. weight
 distributions of the polymers were confirmed by MALDI-TOF-MS. The contents of
 the initiators and EO were calculated by using ¹H NMR, and the sequence
 distributions of various the diads and **triads** units were established by ¹³C
 NMR.

CC 35 (Chemistry of Synthetic High Polymers)

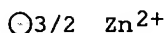
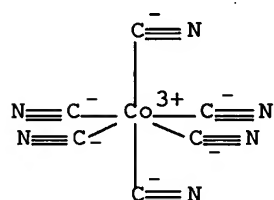
L38 ANSWER 2 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2006:381288 HCAPLUS Full-text
 DOCUMENT NUMBER: 144:434598
 TITLE: Polyurethane resins and process for producing
 polyurethane resin solutions
 INVENTOR(S): Tsuge, Yukio; Otori, Tomeyoshi; Wada, Hiroshi
 PATENT ASSIGNEE(S): Asahi Glass Company, Limited, Japan
 SOURCE: PCT Int. Appl., 31 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006043569	A1	20060427	WO 2005-JP19146	20051018
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			

PRIORITY APPLN. INFO.: JP 2004-306840 A 20041021
 JP 2005-211499 A 20050721

AB Polyurethane resins having a low stretch modulus, a low modulus at low temps., and excellent elastic recovery are prepared by a process including reacting a

- polyisocyanate compound with a **polyether polyol** having number-average mol. weight 750-4,000 obtained by causing a polyoxytetramethylene diol or polycarbonate diol having number-average mol. weight 500-2,500 to add alkylene oxides using a composite metal cyanide complex catalyst as an initiator to obtain an isocyanate-terminated prepolymers and reacting the prepolymers with a chain extender and/or hardener in an organic solvent. Thus, a polyether urethane rubber was prepared from PTMG-propylene oxide copolymer, MDI, and ethylenediamine-Et₂NH in a solvent.
- CC 42-12 (Coatings, Inks, and Related Products)
Section cross-reference(s): 38, 39, 40
- IT 75-65-0D, tert-Butyl alcohol, complexes with ethylene glycol mono-tert-Bu ether and zinc hexacyanocobaltate 7580-85-0D, Ethylene glycol mono-tert-butyl ether, complexes with tert-Bu alc. and zinc hexacyanocobaltate **14049-79-7D**, Zinc hexacyanocobaltate, complexes with ethylene glycol mono-tert-Bu ether and tert-Bu alc.
RL: **CAT (Catalyst use)**; USES (Uses)
(polyurethane resins from polyether and polycarbonate diols and polyisocyanates and chain extenders)
- IT 101-68-8DP, MDI, polymers with butanediol and polycarbonate diols 110-63-4DP, 1,4-Butanediol, polymers with MDI and polycarbonate diols **135422-28-5P**, Isophoronediamine-isophorone diisocyanate-polytetramethylene glycol-propylene oxide copolymer **884490-29-3DP**, reaction products with diethylamine **884490-30-6P**, Ethylenediamine-ethylene oxide-MDI-polytetramethylene glycol-propylene oxide copolymer
RL: **IMF (Industrial manufacture)**; PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(polyurethane resins from polyether and polycarbonate diols and polyisocyanates and chain extenders)
- IT **14049-79-7D**, Zinc hexacyanocobaltate, complexes with ethylene glycol mono-tert-Bu ether and tert-Bu alc.
RL: **CAT (Catalyst use)**; USES (Uses)
(polyurethane resins from polyether and polycarbonate diols and polyisocyanates and chain extenders)
- RN 14049-79-7 HCAPLUS
- CN Cobaltate(3-), hexakis(cyano-κC)-, zinc (2:3), (OC-6-11)- (9CI) (CA INDEX NAME)



- IT **135422-28-5P**, Isophoronediamine-isophorone diisocyanate-polytetramethylene glycol-propylene oxide copolymer **884490-29-3DP**, reaction products with diethylamine **884490-30-6P**, Ethylenediamine-ethylene oxide-MDI-polytetramethylene glycol-propylene oxide copolymer

RL: **IMF** (**Industrial manufacture**); PRP (Properties); TEM
(Technical or engineered material use); **PREP** (**Preparation**); USES
(Uses)

(polyurethane resins from polyether and polycarbonate diols and
polyisocyanates and chain extenders)

RN 135422-28-5 HCAPLUS

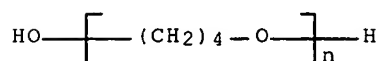
CN Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-, polymer with
 α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl),
5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and
methyloxirane (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C4 H8 O)n H2 O

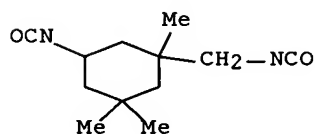
CCI PMS



CM 2

CRN 4098-71-9

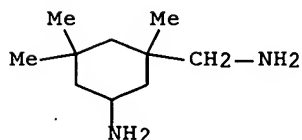
CMF C12 H18 N2 O2



CM 3

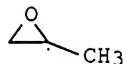
CRN 2855-13-2

CMF C10 H22 N2



CM 4

CRN 75-56-9
CMF C3 H6 O

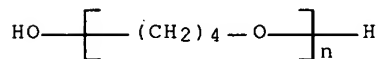


RN 884490-29-3 HCAPLUS

CN 1,2-Ethanediamine, polymer with α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl), 1,1'-methylenebis[4-isocyanatobenzene] and methyloxirane (9CI) (CA INDEX NAME)

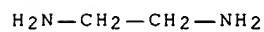
CM 1

CRN 25190-06-1
CMF (C4 H8 O)_n H2 O
CCI PMS



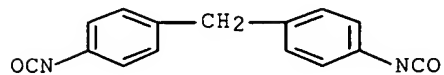
CM 2

CRN 107-15-3
CMF C2 H8 N2



CM 3

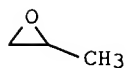
CRN 101-68-8
CMF C15 H10 N2 O2



CM 4

CRN 75-56-9

CMF C3 H6 O



RN 884490-30-6 HCAPLUS

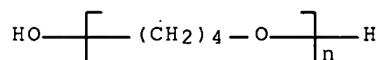
CN 1,2-Ethanediamine, polymer with α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl), 1,1'-methylenebis[4-isocyanatobenzene], methyloxirane and oxirane (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C4 H8 O)_n H2 O

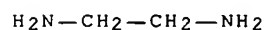
CCI PMS



CM 2

CRN 107-15-3

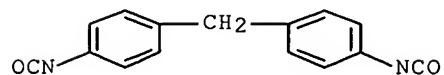
CMF C2 H8 N2



CM 3

CRN 101-68-8

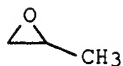
CMF C15 H10 N2 O2



CM 4

CRN 75-56-9

CMF C3 H6 O



CM 5

CRN 75-21-8

CMF C2 H4 O



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 3 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1042310 HCAPLUS Full-text

DOCUMENT NUMBER: 143:326802

TITLE: Production of polyether alcohols by ring-opening polymerization of alkylene oxides in presence of double metal cyanides and antioxidants

INVENTOR(S): Ruppel, Raimund; Baum, Eva; Ostrowski, Thomas; Harre, Kathrin; Bleuel, Elke

PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany

SOURCE: PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005090440	A1	20050929	WO 2005-EP2848	20050317
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 102004013408	A1	20051006	DE 2004-102004013408	20040318
PRIORITY APPLN. INFO.:			DE 2004-102004013408A	20040318
AB	A method for production of polyether alcs. by reacting alkylene oxides with at least one saturated OH-containing compound, which has been optionally already			

reacted with an alkylene oxide, in the presence of a double metal cyanide (DMC) catalyst and an antioxidizing agent added before or during the reaction is described. Thus, 3200 g of glycerol propoxylate with average mol. weight of 1000 were mixed in reactor with 11 g of 5.53 % solution of zinc hexacyanocobaltate (double metal cyanide catalyst) and heated to 120° under vacuum so the mixture water content became < 0.02 % ; 10 g of 2,6-di-tert-butyl-4-methylphenol (antioxidant) were added, followed by 400 g of propylene oxide bubbled through reaction mixture till pressure drop was observed (reaction start was marked 3 min after addition of an oxidant), after that 16450 g of mixture comprising 14910 g of propylene oxide and 1940 g of ethylene oxide were reacted during 2.5 h. period. The obtained **polyether polyol** had hydroxyl number of 48.2 mg KOH/mg, acidic number of 0.027 mg KOH/g, water content of 0.009%, viscosity (25°) of 543 mPas, d. of 1.101 and mol. weight of 3844. The **polyether polyols** can be used for producing polyurethanes by reaction with isocyanates or polyisocyanates.

IC ICM C08G065-26

CC 35-7 (Chemistry of Synthetic High Polymers)

ST ring opening polymn **polyether polyol** polyurethane
prodn; double metal cyanide catalyst antioxidant controlled
polyoxyalkylene prepn

IT Hydroxylamines

RL: CAT (Catalyst use); MOA (Modifier or additive use); USES (Uses)
(N,N-disubstituted, antioxidants; **polyether polyols**
produced by ring-opening polymerization of alkylene oxides in presence of
double metal cyanides and antioxidants)

IT Lactones

RL: CAT (Catalyst use); MOA (Modifier or additive use); USES (Uses)
(antioxidants; **polyether polyols** produced by
ring-opening polymerization of alkylene oxides in presence of double metal
cyanides and antioxidants)

IT Polyoxyalkylenes, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)
(block, diblock, ethers with glycerol; **polyether
polyols** produced by ring-opening polymerization of alkylene oxides in
presence of double metal cyanides and antioxidants)

IT Amines, uses

RL: CAT (Catalyst use); MOA (Modifier or additive use); USES (Uses)
(cyclic, sterically hindered, secondary, antioxidants;
polyether polyols produced by ring-opening polymerization of
alkylene oxides in presence of double metal cyanides and antioxidants)

IT Amines, uses

RL: CAT (Catalyst use); MOA (Modifier or additive use); USES (Uses)
(diamines, aromatic, antioxidants; **polyether polyols**
produced by ring-opening polymerization of alkylene oxides in presence of
double metal cyanides and antioxidants)

IT Phenols, uses

RL: CAT (Catalyst use); MOA (Modifier or additive use); USES (Uses)
(hindered, antioxidants; **polyether polyols** produced
by ring-opening polymerization of alkylene oxides in presence of double

metal

cyanides and antioxidants)

IT Antioxidants

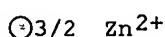
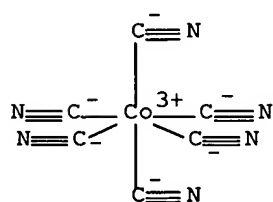
(**polyether polyols** produced by ring-opening polymerization
of alkylene oxides in presence of double metal cyanides and
antioxidants)

IT Polyoxyalkylenes, preparation

Polyurethanes, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)
(**polyether polyols** produced by ring-opening polymerization
of alkylene oxides in presence of double metal cyanides and

- antioxidants)
- IT Polymerization catalysts
(ring-opening, double metal cyanide; **polyether polyols** produced by ring-opening polymerization of alkylene oxides in presence of double metal cyanides and antioxidants)
- IT Polymerization
(ring-opening; **polyether polyols** produced by ring-opening polymerization of alkylene oxides in presence of double metal cyanides and antioxidants)
- IT 59-02-9, α -Tocopherol 101-02-0, Triphenyl phosphite 128-37-0, 2,6-Di-tert-butyl-4-methylphenol, uses 271-89-6, Benzofuran 302-01-2D, Hydrazine, N,N-disubstituted derivs. 471-46-5D, Oxalamide, derivs. 620-81-5 13598-36-2D, Phosphonic acid, derivs. 119588-88-4, N,N-Dihexadecylhydroxylamine
RL: CAT (Catalyst use); MOA (Modifier or additive use); USES (Uses)
(antioxidant; **polyether polyols** produced by ring-opening polymerization of alkylene oxides in presence of double metal cyanides and antioxidants)
- IT 750646-75-4P
RL: IMF (Industrial manufacture); PREP (Preparation)
(of PO-b-(PO-EO) structure; **polyether polyols** produced by ring-opening polymerization of alkylene oxides in presence of double metal cyanides and antioxidants)
- IT 420-05-3D, Cyanic acid, mixed metal salts **14049-79-7**, Zinc hexacyanocobaltate
RL: **CAT (Catalyst use)**; USES (Uses)
(**polyether polyols** produced by ring-opening polymerization of alkylene oxides in presence of double metal cyanides and antioxidants)
- IT 25322-69-4P, Poly(propylene oxide)
RL: IMF (Industrial manufacture); PREP (Preparation)
(**polyether polyols** produced by ring-opening polymerization of alkylene oxides in presence of double metal cyanides and antioxidants)
- IT **14049-79-7**, Zinc hexacyanocobaltate
RL: **CAT (Catalyst use)**; USES (Uses)
(**polyether polyols** produced by ring-opening polymerization of alkylene oxides in presence of double metal cyanides and antioxidants)
- RN 14049-79-7 HCAPLUS
- CN Cobaltate(3-), hexakis(cyano- κ C)-, zinc (2:3), (OC-6-11)- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

3

THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 4 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2005:1020462 HCAPLUS Full-text
 DOCUMENT NUMBER: 143:287188
 TITLE: Starter feed stream acidification in double metal cyanide-catalyzed process for the production of **polyether polyols**
 INVENTOR(S): Browne, Edward P.
 PATENT ASSIGNEE(S): Bayer Materialscience LLC, USA
 SOURCE: Eur. Pat. Appl., 11 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1577334	A1	20050921	EP 2005-5699	20050316
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU				
US 2005209438	A1	20050922	US 2004-804894	20040319
CA 2500905	AA	20050919	CA 2005-2500905	20050315
SG 115771	A1	20051028	SG 2005-1617	20050317
BR 2005000969	A	20051108	BR 2005-969	20050317
JP 2005272838	A2	20051006	JP 2005-78816	20050318
KR 2006044413	A	20060516	KR 2005-22718	20050318
CN 1670007	A	20050921	CN 2005-10056003	20050321

PRIORITY APPLN. INFO.:

US 2004-804894 A 20040319

AB The process of the present invention provides for the manufacture of lower mol. weight double metal cyanide (DMC)-catalyzed polyols than is possible using non-acidified continuous addition of starter (CAOS) feeds, by adding excess acid to a starter feed stream over that required for mere neutralization of the basicity of the starter. The benefits of the invention also extend to starters which do not contain basicity. **Polyether polyols** made by the inventive process may be used to produce improved polyurethane products such as coatings, adhesives, sealants, elastomers, foams and the like.

IC ICM C08G065-26

ICS B01J027-26

CC 37-3 (Plastics Manufacture and Processing)

ST double metal cyanide catalyst polyoxyalkylene **polyether polyol**

IT Acids, uses

RL: NUU (Other use, unclassified); USES (Uses)

(inorg., protic; starter feed stream acidification in double metal cyanide-catalyzed process for the production of **polyether polyols**)

IT Acids, uses

RL: NUU (Other use, unclassified); USES (Uses)

(organic; starter feed stream acidification in double metal cyanide-catalyzed process for the production of **polyether polyols**)

IT Polymerization

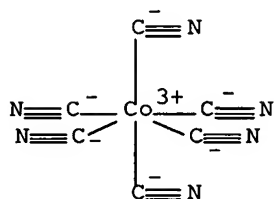
(ring-opening; starter feed stream acidification in double metal cyanide-catalyzed process for the production of **polyether polyols**)

IT Adhesives

Coating materials

- Sealing compositions
(starter feed stream acidification in double metal cyanide-catalyzed process for the production of **polyether polyols**)
- IT Polyethers, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(starter feed stream acidification in double metal cyanide-catalyzed process for the production of **polyether polyols**)
- IT Polyoxyalkylenes, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PREP (Preparation); USES (Uses)
(starter feed stream acidification in double metal cyanide-catalyzed process for the production of **polyether polyols**)
- IT **Polyurethanes, preparation**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(starter feed stream acidification in double metal cyanide-catalyzed process for the production of **polyether polyols**)
- IT Urethane rubber, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(starter feed stream acidification in double metal cyanide-catalyzed process for the production of **polyether polyols**)
- IT Carboxylic acids, uses
Sulfonic acids, uses
RL: NUU (Other use, unclassified); USES (Uses)
(starter feed stream acidification in double metal cyanide-catalyzed process for the production of **polyether polyols**)
- IT Plastic foams
RL: TEM (Technical or engineered material use); USES (Uses)
(starter feed stream acidification in double metal cyanide-catalyzed process for the production of **polyether polyols**)
- IT 14049-79-7, Zinc hexacyanocobaltate
RL: **CAT (Catalyst use)**; USES (Uses)
(starter feed stream acidification in double metal cyanide-catalyzed process for the production of **polyether polyols**)
- IT 25322-69-4P, Polypropylene glycol 25791-96-2P, Propoxylated glycerin
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PREP (Preparation); USES (Uses)
(starter feed stream acidification in double metal cyanide-catalyzed process for the production of **polyether polyols**)
- IT 64-18-6, Formic acid, uses 64-19-7, Acetic acid, uses 75-44-5, Carbonylchloride 77-92-9, Citric acid, uses 104-15-4, p-Toluenesulfonic acid, uses 108-30-5, Succinic anhydride, uses 108-31-6, Maleic anhydride, uses 110-15-6, Succinic acid, uses 110-16-7, Maleic acid, uses 111-50-2, Adipoylchloride 124-04-9, Adipic acid, uses 144-62-7, Oxalic acid, uses 554-95-0, 1,3,5-Benzenetricarboxylic acid 1314-56-3, Phosphorus pentoxide, uses 2035-75-8, Adipic anhydride 7446-11-9, Sulfur trioxide, uses 7647-01-0, Hydrochloric acid, uses 7664-93-9, Sulfuric acid, uses 7719-09-7, Thionyl chloride 7719-12-2, Phosphorous trichloride 10025-87-3, Phosphoric trichloride 10035-10-6, Hydrobromic acid, uses 13598-36-2, Phosphonic acid
RL: NUU (Other use, unclassified); USES (Uses)
(starter feed stream acidification in double metal cyanide-catalyzed process for the production of **polyether polyols**)
- IT 14049-79-7, Zinc hexacyanocobaltate
RL: **CAT (Catalyst use)**; USES (Uses)
(starter feed stream acidification in double metal cyanide-catalyzed process for the production of **polyether polyols**)
- RN 14049-79-7 HCAPLUS

CN Cobaltate(3-), hexakis(cyano-κC)-, zinc (2:3), (OC-6-11)- (9CI) (CA
INDEX NAME)



●3/2 Zn²⁺

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 5 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:698405 HCAPLUS Full-text

DOCUMENT NUMBER: 143:154244

TITLE: **Polyether polyol** having
stereoregularity and method of preparing the
same

INVENTOR(S): Kim, Il; Lee, Sang Hyun; An, Jun Tai

PATENT ASSIGNEE(S): SKC Inc., S. Korea

SOURCE: U.S. Pat. Appl. Publ., 8 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005171319	A1	20050804	US 2004-828800	20040422
KR 2005078969	A	20050808	KR 2004-7102	20040203
PRIORITY APPLN. INFO.:			KR 2004-7102	A 20040203

AB Disclosed is **polyether polyol** for use in production of polyurethane, characterized in that **polyether polyol** carbons have **stereoregularity** of **syndiotactic triad**. Further, a method of preparing such **polyether polyol** is provided wherein an epoxy compound is polymerized in the presence of a double metal cyanide catalyst prepared by reaction of ZnCl₂, tert-BuOH, K hexacyanocobaltate, and polytetrahydrofuran. Therefore, polyurethane resulting from **stereoregular polyether polyol** is superior in phys. properties to polyurethanes obtained by use of atactic **polyether polyols**.

IC ICM C08G018-30

INCL 528076000

CC 37-3 (Plastics Manufacture and Processing)

ST **stereoregular polyoxyalkylene polyol** manuf
zinc cobalt complex catalyst; tertiary butanol polytetrahydrofuran complex
catalyst **stereoregular polyoxyalkylene polyol**
manuf; polyurethane **stereoregular polyoxyalkylene**
polyol precursor manuf

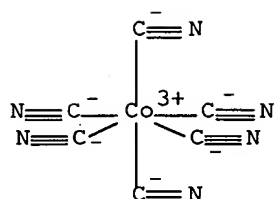
IT **Polyurethanes, preparation**

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)

- (polyoxyalkylene-polyurea-; manufactured of **polyoxyalkylene polyols** having **stereoregularity** in presence of double metal cyanide catalysts for polyurethanes with improved mech. properties)
- IT Polyureas
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
 (polyoxyalkylene-polyurethane-; manufactured of **polyoxyalkylene polyols** having **stereoregularity** in presence of double metal cyanide catalysts for polyurethanes with improved mech. properties)
- IT Polymerization catalysts
 (ring-opening; manufactured of **polyoxyalkylene polyols** having **stereoregularity** in presence of double metal cyanide catalysts for polyurethanes with improved mech. properties)
- IT 75-65-0, tert-Butanol, uses **7646-85-7**, Zinc chloride, uses **13963-58-1**, Potassium hexacyanocobaltate 24979-97-3, Polytetrahydrofuran 25190-06-1, Polytetrahydrofuran, sru
 RL: **CAT (Catalyst use)**; USES (Uses)
 (catalyst component; manufactured of **polyoxyalkylene polyols** having **stereoregularity** in presence of double metal cyanide catalysts for polyurethanes with improved mech. properties)
- IT 56-81-5DP, Glycerol, polyethers with **syndiotactic** polypropylene oxide, polyurethanes 26471-62-5DP, TDI-80, polyoxyalkylene-polyurea-polyurethanes with **syndiotactic** polypropylene glycol 26764-44-3DP, polyoxyalkylene-polyurea-polyurethanes with **syndiotactic** polypropylene glycol 52625-13-5DP, Polypropylene glycol sorbitol ether, reaction products with **syndiotactic** polypropylene oxide, polyurethanes 71698-13-0DP, **Syndiotactic** polypropylene glycol, reaction products with polyols, polyurethanes
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
 (manufactured of **polyoxyalkylene polyols** having **stereoregularity** in presence of double metal cyanide catalysts for polyurethanes with improved mech. properties)
- IT **7646-85-7**, Zinc chloride, uses **13963-58-1**, Potassium hexacyanocobaltate
 RL: **CAT (Catalyst use)**; USES (Uses)
 (catalyst component; manufactured of **polyoxyalkylene polyols** having **stereoregularity** in presence of double metal cyanide catalysts for polyurethanes with improved mech. properties)
- RN 7646-85-7 HCAPLUS
 CN Zinc chloride (ZnCl₂) (9CI) (CA INDEX NAME)

Cl-Zn-Cl

- RN 13963-58-1 HCAPLUS
 CN Cobaltate(3-), hexakis(cyano-κC)-, tripotassium, (OC-6-11)- (9CI)
 (CA INDEX NAME)



⊖3 K⁺

L38 ANSWER 6 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:436151 HCAPLUS Full-text

DOCUMENT NUMBER: 143:8519

TITLE: Method for preparing polyether-based polyurethane microporous elastomer

INVENTOR(S): Kang, Maoqing; Wang, Xinkui; Yin, Ning; Feng, Yuelan; Zhang, Qingyun; Qu, Bo

PATENT ASSIGNEE(S): Shanxi Institute of Coal Chemistry, Chinese Academy of Sciences, Peop. Rep. China

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 12 pp.

CODEN: CNXXEV

DOCUMENT TYPE: Patent

LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1428359	A	20030709	CN 2001-131677	20011227

PRIORITY APPLN. INFO.: CN 2001-131677 20011227

AB The method comprises reacting diisocyanate with low-unsatn. **polyether polyol** and low mol. reactive compound at 80-90° for 2-3 h to obtain isocyanate-terminated semi-prepolymer; mixing low-unsatn. **polyether polyol** with chain extending agent, water, catalyst, and surfactant (at a ratio of 100:5-15:0.3-1.2:1.0-2.0:0.3-1.0) at 40-50° for 1-2 h, deaerating to obtain polyol mixture; mixing the isocyanate-terminated semi-prepolymer with the polyol mixture at 40-50° under controlling the isocyanate index at 90-100, casting, foaming, and demolding. The diisocyanate is 2,2'-diphenylmethane diisocyanate, 2,4'-diphenylmethane diisocyanate, 4,4'-diphenylmethane diisocyanate, or carbodiimide modified diisocyanate. The **polyether polyol** with functionality of 2.0 and/or 3.0 and unsatn. degree <0.01 meq·g⁻¹ is **polyoxyalkylene polyol**. The chain extending agent is ethylene glycol, propanediol, butanediol, pentanediol, diglycol, and/or dipropylene glycol. The catalyst is triethylenediamine, tetramethyldiethylenediamine, dibutyltin dilaurate, etc. The surfactant is organosilicon or polyoxyalkylene copolymer.

IC ICM C08G018-48

CC 37-3 (Plastics Manufacture and Processing)

IT **Polyurethanes, preparation**
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
 (polyether-; method for preparing polyether-based polyurethane microporous elastomer)

IT 7733-02-0, Zinc sulfate 14049-79-7, Zinc hexacyanocobaltate
 RL: **CAT (Catalyst use)**; USES (Uses)

(zinc hexacyanocobaltate/zinc sulfate catalyst for preparing polyether-based polyurethane microporous elastomer)

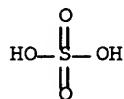
IT 7733-02-0, Zinc sulfate 14049-79-7, Zinc hexacyanocobaltate

RL: **CAT (Catalyst use)**; USES (Uses)

(zinc hexacyanocobaltate/zinc sulfate catalyst for preparing polyether-based polyurethane microporous elastomer)

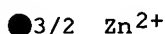
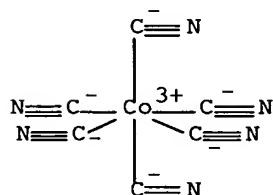
RN 7733-02-0 HCAPLUS

CN Sulfuric acid, zinc salt (1:1) (8CI, 9CI) (CA INDEX NAME)



RN 14049-79-7 HCAPLUS

CN Cobaltate(3-), hexakis(cyano-κC)-, zinc (2:3), (OC-6-11)- (9CI) (CA INDEX NAME)



L38 ANSWER 7 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:322389 HCAPLUS Full-text

DOCUMENT NUMBER: 142:374331

TITLE: Stereo- and regio-selective polymerization of racemic epoxides to **polyether polyols**

INVENTOR(S): Schnorpfeil, Christoph; Rotermund, Udo; Mueller-Hagen, Gerd; Ruppel, Raimund; Fuhrmann, Hans; Oehme, Guenther

PATENT ASSIGNEE(S): BASF AG, Germany

SOURCE: Ger. Offen., 6 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 10342979	A1	20050414	DE 2003-10342979	20030917

PRIORITY APPLN. INFO.:

DE 2003-10342979

20030917

AB In the title process, which gives high proportions of isotactic **triads** and low contents of stereo-irregular segments, polymerization is carried out in the presence of bimetallic μ -oxoalkoxide-activated polyols and tertiary amines. Heating 1.27 g $\text{Mg.HPO}_4 \cdot 3\text{H}_2\text{O}$, 1.49 g Al(OPr-iso)_3 , and 13.44 g polyethylene glycol (mol. weight 200) at 250° for 10 min with distillation of iso-PrOH and H_2O , cooling, adding 11.6 g propylene oxide, and heating at 130° for 2 h gave a product with number-average mol. weight 850 containing 53% isotactic **triads** and 16% regio-inverse segments.

IC ICM C08G065-12

ICS C08G018-48

CC 35-5 (Chemistry of Synthetic High Polymers)

IT Epoxides

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)

(stereo- and regio-selective polymerization of racemic epoxides to **polyether polyols**)

IT Polyoxyalkylenes, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)

(stereo- and regio-selective polymerization of racemic epoxides to **polyether polyols**)

IT 25322-69-4P, Polypropylene glycol

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(stereo- and regio-selective polymerization of racemic epoxides to **polyether polyols**)

L38 ANSWER 8 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:160067 HCAPLUS Full-text

DOCUMENT NUMBER: 142:241768

TITLE: Manufacture of polyurethane foams having low content of formaldehyde and acetaldehyde

INVENTOR(S): Suzuki, Chitoshi; Fukuda, Hiroki; Ikai, Shigeru

PATENT ASSIGNEE(S): Asahi Glass Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005048174	A2	20050224	JP 2004-207320	20040714
PRIORITY APPLN. INFO.:			JP 2003-274724	A 20030715

AB The foams are manufactured by treatment of **polyether polyols** with polyisocyanates in the presence of blowing agents, where total content of HCHO and MeCHO is suppressed to ≤ 8 ppm in the **polyether polyols**. Thus, propylene oxide was polymerized in the presence of polypropylene glycol glycerin ether and a reaction product of ZnCl_2 with $\text{K}_3\text{Co(CN)}_6$, further polymerized with ethylene oxide in the presence of KOH , and purified to give propylene oxide-ethylene oxide block copolymer polyol showing total content of HCHO and MeCHO 0.95 ppm. A mixture containing the copolymer polyol, Coronate 1021 (polyisocyanate), TDI 80 (80:20 2,4-TDI-2,6-TDI mixture), polymethylene polyphenyl diisocyanate, and water was expanded to give a foam showing total content of HCHO and MeCHO $0.0007 \mu\text{g/cm}^3$.

IC ICM C08G018-48

ICS C08G065-10; C08G101-00

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 35

IT **844885-39-8P**, Coronate 1021-ethylene oxide-propylene oxide diblock copolymer glycerin ether-polymethylenepolyphenylene diisocyanate-TDI 80 copolymer
 RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
 (manufacture of polyurethane foams having low content of formaldehyde and acetaldehyde)

IT **7646-85-7**, Zinc chloride, uses **13963-58-1**, Potassium hexacyanocobaltate
 RL: **CAT (Catalyst use)**; USES (Uses)
 (precursor for double metal cyanide ring-opening polymerization catalyst; manufacture of polyurethane foams having low content of formaldehyde and acetaldehyde)

IT **844885-39-8P**, Coronate 1021-ethylene oxide-propylene oxide diblock copolymer glycerin ether-polymethylenepolyphenylene diisocyanate-TDI 80 copolymer
 RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
 (manufacture of polyurethane foams having low content of formaldehyde and acetaldehyde)

RN 844885-39-8 HCAPLUS

CN Isocyanic acid, polymethylenepolyphenylene ester, polymer with Coronate 1021, 1,3-diisocyanatomethylbenzene and methyloxirane diblock polymer with oxirane ether with 1,2,3-propanetriol (3:1) (9CI) (CA INDEX NAME)

CM 1

CRN 119314-17-9

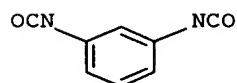
CMF Unspecified

CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 26471-62-5
 CMF C9 H6 N2 O2
 CCI IDS



D1-Me

CM 3

CRN 9016-87-9
 CMF Unspecified
 CCI PMS, MAN

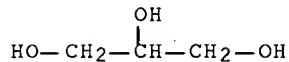
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 4

CRN 750646-75-4
 CMF C3 H8 O3 . 3 (C3 H6 O . C2 H4 O) x

CM 5

CRN 56-81-5
 CMF C3 H8 O3

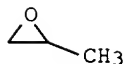


CM 6

CRN 697765-47-2
 CMF (C3 H6 O . C2 H4 O) x
 CCI PMS

CM 7

CRN 75-56-9
 CMF C3 H6 O



CM 8

CRN 75-21-8
 CMF C2 H4 O

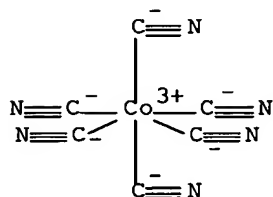


IT 7646-85-7, Zinc chloride, uses 13963-58-1, Potassium hexacyanocobaltate
 RL: **CAT (Catalyst use)**; USES (Uses)
 (precursor for double metal cyanide ring-opening polymerization catalyst;
 manufacture of polyurethane foams having low content of formaldehyde and
 acetaldehyde)
 RN 7646-85-7 HCAPLUS
 CN Zinc chloride (ZnCl₂) (9CI) (CA INDEX NAME)

Cl-Zn-Cl

RN 13963-58-1 HCAPLUS

CN Cobaltate(3-), hexakis(cyano-κC)-, tripotassium, (OC-6-11)- (9CI)
(CA INDEX NAME)

●3 K⁺

L38 ANSWER 9 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:132377 HCAPLUS Full-text

DOCUMENT NUMBER: 142:220160

TITLE: Phthalic anhydride based polyester-ether polyols and
double metal cyanide catalyst system for preparing
same

INVENTOR(S): Geiger, Eric J.; Hillshaffer, Douglas K.

PATENT ASSIGNEE(S): Stepan Company, USA

SOURCE: U.S., 14 pp., Cont.-in-part of U.S. Ser. No. 427,050.
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6855844	B1	20050215	US 2000-696675	20001025
US 6569352	B1	20030527	US 1999-427050	19991025
AT 327267	E	20060615	AT 2000-973712	20001019
WO 2002036656	A2	20020510	WO 2001-US51066	20011019
WO 2002036656	A3	20021227		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002037746	A5	20020515	AU 2002-37746	20011019
US 2005085658	A1	20050421	US 2004-675	20041130
WO 2006060273	A2	20060608	WO 2005-US42680	20051122

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

US 2006135637 A1 20060622 US 2005-286575 20051122
 PRIORITY APPLN. INFO.: US 1999-427050 A2 19991025
 US 2000-696675 A1 20001025
 WO 2001-US51066 W 20011019
 US 2004-675 A 20041130

AB Disclosed are polyester-ether polyols and their use in urethane prepolymers, urethane foams and non-foam urethane coatings, adhesives, sealants and/or elastomers (CASE). Methods for producing such polyester-ether polyols using double metal cyanide catalysts are disclosed, along with methods for producing urethane prepolymers. The polyester-ether polyols of the instant invention are preferably the reaction product of phthalic anhydride, diethylene glycol, and propylene oxide. These polyester-ether polyols are useful as either the primary polyol in urethane compns. or in combination with conventional auxiliary polyester- and/or **polyether**-based **polyols**. The polyester-ether polyols impart greatly improved solubility and compatibility to mixts. of either polyether and/or polyester polyols. The polyester-ether polyols are desirably of lower viscosity than their precursor intermediate polyester polyols and are generally soluble in either polyester- and/or **polyether**-based **polyols**. Addnl., the polyester-ether polyols generally provide improved hydrolytic stability to CASE materials in which they are utilized.

IC ICM C07C041-03
 ICS C07C043-10; C07C043-13

INCL 560076000; 252182270; 252182280; 560079000; 560089000; 560091000; 560096000; 560190000; 560198000; 560200000

CC 37-3 (Plastics Manufacture and Processing)
 Section cross-reference(s): 39

ST polyester ether polyol phthalic anhydride based manuf; coating adhesive sealants urethane prepolymer polyester ether polyol; elastomer adhesive sealant urethane prepolymer polyester ether polyol; double metal cyanide catalyst polyester **polyether polyol**

IT **Polyurethanes, preparation**
 Urethane rubber, preparation
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyester-polyoxyalkylene-; phthalic anhydride based polyester-ether polyols and double metal cyanide catalyst system for preparing same)

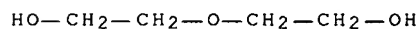
IT Polyesters, preparation
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (**polyoxyalkylene**-, **polyols**; phthalic anhydride based polyester-ether polyols and double metal cyanide catalyst system for preparing same)

IT **335630-16-5P**, Diethylene glycol-1,4-butanediol-phthalic anhydride-propylene oxide-MDI block copolymer
 RL: **IMF (Industrial manufacture)**; PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
 (comprised of actual and assumed monomers, rubber; phthalic anhydride

- based polyester-ether polyols and double metal cyanide catalyst system for preparing same)
- IT **335630-15-4P**, Diethylene glycol-phthalic anhydride-propylene oxide-MDI block copolymer
 RL: **IMF (Industrial manufacture)**; PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
 (comprised of actual and assumed monomers; phthalic anhydride based polyester-ether polyols and double metal cyanide catalyst system for preparing same)
- IT **11121-01-0**
 RL: **CAT (Catalyst use)**; USES (Uses)
 (phthalic anhydride based polyester-ether polyols and double metal cyanide catalyst system for preparing same)
- IT **335630-16-5P**, Diethylene glycol-1,4-butanediol-phthalic anhydride-propylene oxide-MDI block copolymer
 RL: **IMF (Industrial manufacture)**; PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
 (comprised of actual and assumed monomers, rubber; phthalic anhydride based polyester-ether polyols and double metal cyanide catalyst system for preparing same)
- RN 335630-16-5 HCAPLUS
- CN 1,3-Isobenzofurandione, polymer with 1,4-butanediol, 1,1'-methylenebis[4-isocyanatobenzene], methyloxirane and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

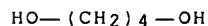
CM 1

CRN 111-46-6
 CMF C4 H10 O3



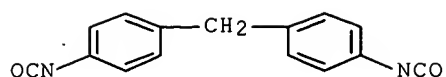
CM 2

CRN 110-63-4
 CMF C4 H10 O2



CM 3

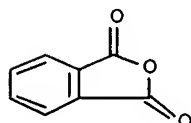
CRN 101-68-8
 CMF C15 H10 N2 O2



CM 4

CRN 85-44-9

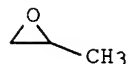
CMF C8 H4 O3



CM 5

CRN 75-56-9

CMF C3 H6 O

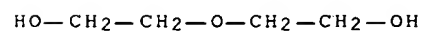


IT **335630-15-4P**, Diethylene glycol-phthalic anhydride-propylene oxide-MDI block copolymer
 RL: **IMF (Industrial manufacture)**; PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
 (comprised of actual and assumed monomers; phthalic anhydride based polyester-ether polyols and double metal cyanide catalyst system for preparing same)
 RN 335630-15-4 HCAPLUS
 CN 1,3-Isobenzofurandione, polymer with 1,1'-methylenebis[4-isocyanatobenzene], methyloxirane and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

CM 1

CRN 111-46-6

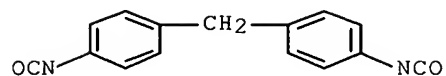
CMF C4 H10 O3



CM 2

CRN 101-68-8

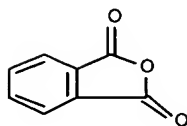
CMF C15 H10 N2 O2



CM 3

CRN 85-44-9

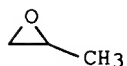
CMF C8 H4 O3



CM 4

CRN 75-56-9

CMF C3 H6 O



IT 11121-01-0

RL: **CAT (Catalyst use)**; USES (Uses)

(phthalic anhydride based polyester-ether polyols and double metal cyanide catalyst system for preparing same)

RN 11121-01-0 HCAPLUS

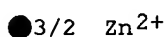
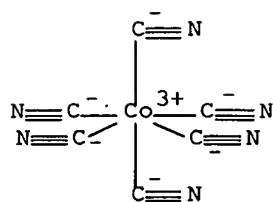
CN Cobaltate(3-), hexakis(cyano-κC)-, (OC-6-11)-, zinc, compd. with 1,2-dimethoxyethane and zinc chloride (ZnCl₂) (2:3:1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 14049-79-7

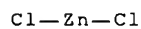
CMF C6 Co N6 . 3/2 Zn

CCI CCS



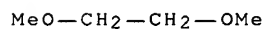
CM 2

CRN 7646-85-7
CMF Cl2 Zn



CM 3

CRN 110-71-4
CMF C4 H10 O2



REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 10 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:1080961 HCAPLUS Full-text

DOCUMENT NUMBER: 142:56832

TITLE: Composite metal cyanide complex catalyst, process for producing the same, and use of the same

INVENTOR(S): Suzuki, Chitoshi; Fukuda, Hiroki; Toyota, Yoshinori; Ikai, Shigeru; Sakurai, Hideo

PATENT ASSIGNEE(S): Asahi Glass Company, Limited, Japan

SOURCE: PCT Int. Appl., 38 pp.

CODEN: PIXXD2

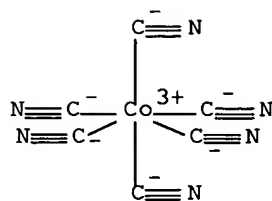
DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004108794	A1	20041216	WO 2004-JP8070	20040603
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2005015786	A2	20050120	JP 2004-164791	20040602
EP 1632517	A1	20060308	EP 2004-735978	20040603
R: BE, DE, FR, GB, IT, NL				
CN 1802400	A	20060712	CN 2004-80015645	20040603
US 2006004233	A1	20060105	US 2005-211453	20050826
PRIORITY APPLN. INFO.:			JP 2003-159341	A 20030604
			WO 2004-JP8070	W 20040603
AB	A composite metal cyanide complex catalyst which can be industrially produced with ease and is highly active. It is a finely particulate, composite metal cyanide complex catalyst which contains, as an organic ligand, either t-Bu alc. or a combination of t-Bu alc. with other organic compound. When analyzed by the light scattering method for examining fine particles having a particle diameter of 0.15 μm or larger, the finely particulate catalyst has a volume-average particle diameter of 3 to 20 μm . Furthermore, the content of catalyst particles having a particle diameter of 0.15 to 1 μm therein is less than 5 volume% and the content of catalyst particles having a particle diameter exceeding 1 μm therein is 95 to 100 volume%, excluding 95 volume%.			
IC	ICM C08G065-10 ICS C08K005-56; C08L071-02; B01J031-22			
CC	35-3 (Chemistry of Synthetic High Polymers) Section cross-reference(s): 38			
ST	ring opening polymn catalyst polyether cyanide; filter microparticle DMC tert butyl alc catalyst; polyether monool polyol dispersion medium			
IT	Plastic foams Polyurethanes, preparation RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (composite metal cyanide complex catalyst, process for producing the same, and use of same)			
IT	75-65-ODP, tert-Butylalcohol, complexes with DMC 14049-79-7DP , Zinc hexacyanocobaltate, complexes with tert-butylalc. derivs. RL: CAT (Catalyst use) ; IMF (Industrial manufacture); PREP (Preparation); USES (Uses) (composite metal cyanide complex catalyst, process for producing the same, and use of same)			
IT	14049-79-7DP , Zinc hexacyanocobaltate, complexes with tert-butylalc. derivs. RL: CAT (Catalyst use) ; IMF (Industrial manufacture); PREP (Preparation); USES (Uses) (composite metal cyanide complex catalyst, process for producing the same, and use of same)			
RN	14049-79-7 HCAPLUS			
CN	Cobaltate(3-), hexakis(cyano-kC)-, zinc (2:3), (OC-6-11)- (9CI) (CA INDEX NAME)			



●3/2 Zn²⁺

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 11 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2004:1060823 HCAPLUS Full-text
 DOCUMENT NUMBER: 142:38743
 TITLE: Process for preparing double metal cyanide catalyzed polyols
 INVENTOR(S): Le-Khac, Bi; Gentile, Todd D.
 PATENT ASSIGNEE(S): Bayer Antwerp, N.V., USA
 SOURCE: U.S. Pat. Appl. Publ., 10 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

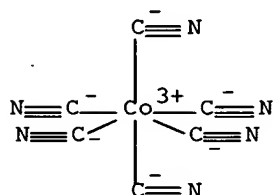
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004249104	A1	20041209	US 2003-457264	20030609
US 6884826	B2	20050426		
WO 2004111107	A1	20041223	WO 2004-US17833	20040607
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.: US 2003-457264 A 20030609

AB A process for preparing a **polyoxyalkylene polyol** comprises: combining a starter compound having active hydrogen atoms with a double metal cyanide catalyst; activating the double metal cyanide catalyst with a first alkylene oxide monomer; polyoxyalkylating the starter compound with a mixture of the first alkylene oxide monomer and a second alkylene oxide monomer in which the first alkylene oxide monomer content of the mixture decreases as content of the second alkylene oxide monomer increases over the course of the polyoxyalkylation; digesting unreacted monomers of the first alkylene oxide and, the second alkylene oxide; and capping the polyol by adding the second

alkylene oxide thereto, wherein the first alkylene oxide monomer and the second alkylene oxide monomer are different. The polyols are useful in polyurethanes.

IC ICM C08G018-00
ICS C08G059-68
INCL 528044000; X52-840.9; X52-841.0; X52-841.4
CC 35-6 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67
IT **Polyurethanes, preparation**
RL: IMF (Industrial manufacture); PREP (Preparation)
(foam, elastomer, sealant, coating and adhesive; process for preparing double metal cyanide catalyzed polyols)
IT **14049-79-7, Zinc hexacyanocobaltate**
RL: **CAT (Catalyst use)**; USES (Uses)
(process for preparing double metal cyanide catalyzed polyols)
IT **14049-79-7, Zinc hexacyanocobaltate**
RL: **CAT (Catalyst use)**; USES (Uses)
(process for preparing double metal cyanide catalyzed polyols)
RN 14049-79-7 HCAPLUS
CN Cobaltate(3-), hexakis(cyano-κC)-, zinc (2:3), (OC-6-11)- (9CI) (CA INDEX NAME)



● 3/2 Zn²⁺

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

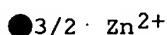
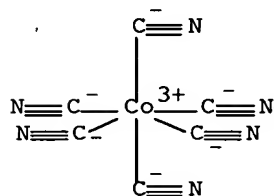
L38 ANSWER 12 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:650024 HCAPLUS Full-text
DOCUMENT NUMBER: 141:174871
TITLE: **Polyether polyol** compositions
prepared by using composite metal cyanide complex catalysts for urethane prepolymers
INVENTOR(S): Suzuki, Chitoshi; Fukuda, Hiroki; Ikai, Shigeru
PATENT ASSIGNEE(S): Asahi Glass Company, Ltd., Japan
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004067633	A1	20040812	WO 2004-JP737	20040128
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,				

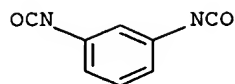
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 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI
 EP 1589071 A1 20051026 EP 2004-705931 20040128
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
 CN 1742052 A 20060301 CN 2004-80002782 20040128
 US 2005267279 A1 20051201 US 2005-188888 20050726
 PRIORITY APPLN. INFO.: JP 2003-19062 A 20030128
 WO 2004-JP737 W 20040128

- AB The **polyether polyol** composition comprises a **polyether polyol** (e.g., dipropylene glycol-initiated polypropylene glycol) obtained by a ring-opening polymerization of an alkylene oxide (e.g., propylene oxide) in the presence of a composite metal cyanide complex catalyst (zinc hexacyanocobaltate); and ≥ 1 phosphoric acid compound containing a phosphoric acid selected from orthophosphoric acid, polyphosphoric acid, and polymetaphosphoric acid and/or their partial ester, wherein the content of the metal derived from the composite metal cyanide complex catalyst is 1-30 ppm (based on **polyether polyol**) and the phosphoric acid compound content is 0.5-100 ppm (based on the **polyether polyol**). The **polyether polyol** is reacted with a polyisocyanate (e.g., TDI 80) at a reduced rate to give an isocyanate-terminated prepolymer with good storage stability.
- IC ICM C08L071-02
 ICS C08G065-10; C08G018-48
- CC 37-3 (Plastics Manufacture and Processing)
 Section cross-reference(s): 35, 78
- ST **polyoxyalkylene polyol** phosphoric acid polyurethane
 storage stability; metal cyanide complex catalyst **polyether polyol** prepn
- IT Cyanides (inorganic), uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (complexes; **polyether polyol** composition prepared by using composite metal cyanide complex catalysts for urethane prepolymers)
- IT Polymerization catalysts
 (**polyether polyol** composition prepared by using composite metal cyanide complex catalysts for urethane prepolymers)
- IT Polyoxyalkylenes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PREP (Preparation); USES (Uses)
 (**polyether polyol** composition prepared by using composite metal cyanide complex catalysts for urethane prepolymers)
- IT Polyphosphoric acids
 RL: MOA (Modifier or additive use); USES (Uses)
 (**polyether polyol** composition prepared by using composite metal cyanide complex catalysts for urethane prepolymers)
- IT **Polyurethanes, preparation**
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxyalkylene-; **polyether polyol** composition prepared by using composite metal cyanide complex catalysts for urethane prepolymers)
- IT 7664-38-2D, Phosphoric acid, alkyl esters 10343-62-1D, Metaphosphoric acid, poly-
 RL: MOA (Modifier or additive use); USES (Uses)
 (**polyether polyol** composition prepared by using composite metal cyanide complex catalysts for urethane prepolymers)
- IT 14049-79-7P, Zinc hexacyanocobaltate
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
 (**polyoxyalkylene polyol** compns. prepared by using

- composite metal cyanide complex catalysts for urethane prepolymers)
- IT 25322-69-4P
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PREP (Preparation); USES (Uses)
 (**polyoxyalkylene polyol** compns. prepared by using composite metal cyanide complex catalysts for urethane prepolymers)
- IT 9057-91-4P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (**polyoxyalkylene polyol** compns. prepared by using composite metal cyanide complex catalysts for urethane prepolymers)
- IT 7664-38-2, Orthophosphoric acid, uses 12645-31-7, AP 8
 RL: MOA (Modifier or additive use); USES (Uses)
 (**polyoxyalkylene polyol** compns. prepared by using composite metal cyanide complex catalysts for urethane prepolymers)
- IT 7646-85-7, Zinc chloride, reactions 13963-58-1, Potassium hexacyano cobaltate
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of composite metal cyanide complex catalysts for **polyoxyalkylene polyols**)
- IT 14049-79-7P, Zinc hexacyanocobaltate
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
 (**polyoxyalkylene polyol** compns. prepared by using composite metal cyanide complex catalysts for urethane prepolymers)
- RN 14049-79-7 HCAPLUS
- CN Cobaltate(3-), hexakis(cyano-κC)-, zinc (2:3), (OC-6-11)- (9CI) (CA INDEX NAME)



- IT 9057-91-4P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (**polyoxyalkylene polyol** compns. prepared by using composite metal cyanide complex catalysts for urethane prepolymers)
- RN 9057-91-4 HCAPLUS
- CN Poly[oxy(methyl-1,2-ethanediyl)], α-hydro-ω-hydroxy-, polymer with 1,3-diisocyanatomethylbenzene (9CI) (CA INDEX NAME)
- CM 1
- CRN 26471-62-5
- CMF C9 H6 N2 O2
- CCI IDS



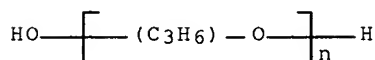
D1-Me

CM 2

CRN 25322-69-4

CMF (C3 H6 O)_n H2 O

CCI IDS, PMS



L38 ANSWER 13 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:411697 HCAPLUS Full-text

DOCUMENT NUMBER: 140:407874

TITLE: Polyester-**polyether polyols**,
urethane prepolymers therefrom, manufacture thereof,
and curable urethane compositions and adhesives
therefrom

INVENTOR(S): Tsushimo, Yukio; Suzuki, Chitoshi

PATENT ASSIGNEE(S): Asahi Glass Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004143314	A2	20040520	JP 2002-310923	20021025
PRIORITY APPLN. INFO.:			JP 2002-310923	20021025

AB The polyester-**polyether polyols** are prepared by ring-opening polymerization of ≥ 3 mol of alkylene oxides to 1 mol (based on active H) of polyester polyols with OH value 30-250 mg-KOH/g in the presence of catalysts. The polyester-**polyether polyols** are reacted with polyisocyanates to give urethane prepolymers. Compns. containing the prepolymers are useful for adhesives showing low viscosity and high adhesiveness. Thus, propylene oxide was polymerized in the presence of poly(3-methylpentanediol adipate) diol and Zn hexacyanocobaltate/tert-BuOH/tert-BuOCH₂CH₂OH complex and reacted with MDI to give an urethane prepolymer (NCO index 273, viscosity 19.2 at 25°), which was applied on a polypropylene film and cured at 20° and relative humidity 60% to give a film, showing A hardness 35 and tensile strength 2.84 and 3.80, at elongation 100 and 300%, resp.

IC ICM C08G063-66

ICS C08G018-42; C09J175-04

CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 35

IT 690615-55-5P 690615-56-6P 690615-57-7P **690615-60-2P**
 RL: **IMF (Industrial manufacture)**; RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
 (comprised of actual and assumed monomers; manufacture of urethane prepolymers from polyoxyalkylene-polyester polyols for low-viscosity high-adhesiveness adhesives)

IT **690615-58-8P 690615-59-9P**
 RL: **IMF (Industrial manufacture)**; RCT (Reactant); TEM (Technical or engineered material use); **PREP (Preparation)**; RACT (Reactant or reagent); USES (Uses)
 (comprised of actual and assumed monomers; manufacture of urethane prepolymers from polyoxyalkylene-polyester polyols for low-viscosity high-adhesiveness adhesives)

IT **157886-93-6P 690615-61-3P 690615-62-4P**
 RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
 (comprised of actual and assumed monomers; manufacture of urethane prepolymers from polyoxyalkylene-polyester polyols for low-viscosity high-adhesiveness adhesives)

IT **690680-41-2**
 RL: **CAT (Catalyst use)**; USES (Uses)
 (ring-opening polymerization catalysts; manufacture of urethane prepolymers from polyoxyalkylene-polyester polyols for low-viscosity high-adhesiveness adhesives)

IT **690615-60-2P**
 RL: **IMF (Industrial manufacture)**; RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
 (comprised of actual and assumed monomers; manufacture of urethane prepolymers from polyoxyalkylene-polyester polyols for low-viscosity high-adhesiveness adhesives)

RN 690615-60-2 HCAPLUS

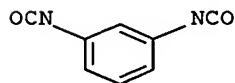
CN Hexanedioic acid, polymer with 1,3-diisocyanatomethylbenzene, methyloxirane and 3-methyl-1,5-pentanediol, block. (9CI) (CA INDEX NAME)

CM 1

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS

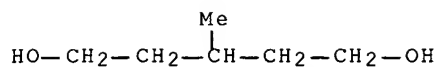


D1-Me

CM 2

CRN 4457-71-0

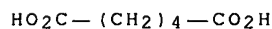
CMF C6 H14 O2



CM 3

CRN 124-04-9

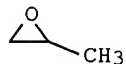
CMF C6 H10 O4



CM 4

CRN 75-56-9

CMF C3 H6 O



IT 690615-58-8P 690615-59-9P

RL: **IMF** (**Industrial manufacture**); RCT (Reactant); TEM (Technical or engineered material use); **PREP** (**Preparation**); RACT (Reactant or reagent); USES (Uses)

(comprised of actual and assumed monomers; manufacture of urethane prepolymers from polyoxyalkylene-polyester polyols for low-viscosity high-adhesiveness adhesives)

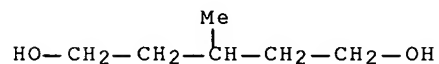
RN 690615-58-8 HCAPLUS

CN Hexanedioic acid, polymer with 1,1'-methylenebis[4-isocyanatobenzene], methyloxirane and 3-methyl-1,5-pentanediol, block (9CI) (CA INDEX NAME)

CM 1

CRN 4457-71-0

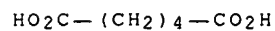
CMF C6 H14 O2



CM 2

CRN 124-04-9

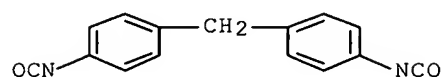
CMF C6 H10 O4



CM 3

CRN 101-68-8

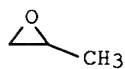
CMF C15 H10 N2 O2



CM 4

CRN 75-56-9

CMF C3 H6 O



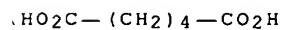
RN 690615-59-9 HCAPLUS

CN Hexanedioic acid, polymer with 1,4-butanediol, 1,1'-methylenebis[4-isocyanatobenzene] and methyloxirane, block (9CI) (CA INDEX NAME)

CM 1

CRN 124-04-9

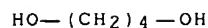
CMF C6 H10 O4



CM 2

CRN 110-63-4

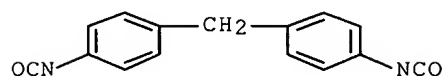
CMF C4 H10 O2



CM 3

CRN 101-68-8

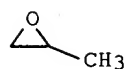
CMF C15 H10 N2 O2



CM 4

CRN 75-56-9

CMF C3 H6 O



IT 157886-93-6P 690615-61-3P 690615-62-4P

RL: **IMF** (**Industrial manufacture**); TEM (Technical or engineered material use); **PREP** (**Preparation**); USES (Uses)

(comprised of actual and assumed monomers; manufacture of urethane prepolymers from polyoxyalkylene-polyester polyols for low-viscosity high-adhesiveness adhesives)

RN 157886-93-6 HCAPLUS

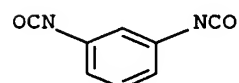
CN Hexanedioic acid, polymer with 1,3-diisocyanatomethylbenzene and 3-methyl-1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS

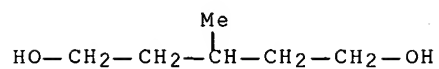


D1-Me

CM 2

CRN 4457-71-0

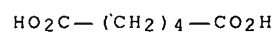
CMF C6 H14 O2



CM 3

CRN 124-04-9

CMF C6 H10 O4



RN 690615-61-3 HCAPLUS

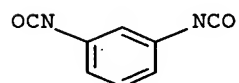
CN Hexanedioic acid, polymer with 1,4-butanediol, 1,3-diisocyanatomethylbenzene, 1,1'-methylenebis[4-isocyanatobenzene], methyloxirane and 3-methyl-1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS

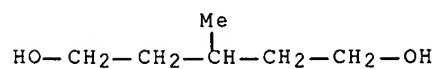


D1-Me

CM 2

CRN 4457-71-0

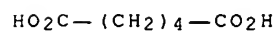
CMF C6 H14 O2



CM 3

CRN 124-04-9

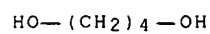
CMF C6 H10 O4



CM 4

CRN 110-63-4

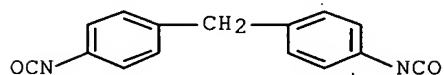
CMF C4 H10 O2



CM 5

CRN 101-68-8

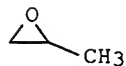
CMF C15 H10 N2 O2



CM 6

CRN 75-56-9

CMF C3 H6 O

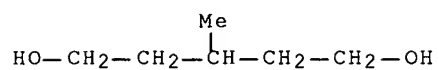


RN 690615-62-4 HCAPLUS

CN Hexanedioic acid, polymer with 1,4-butanediol, 1,1'-methylenebis[4-isocyanatobenzene], methyloxirane and 3-methyl-1,5-pentanediol (9CI) (CA INDEX NAME)

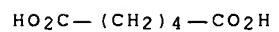
CM 1

CRN 4457-71-0
CMF C6 H14 O2



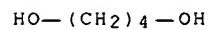
CM 2

CRN 124-04-9
CMF C6 H10 O4



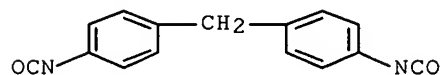
CM 3

CRN 110-63-4
CMF C4 H10 O2



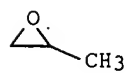
CM 4

CRN 101-68-8
CMF C15 H10 N2 O2



CM 5

CRN 75-56-9
CMF C3 H6 O



IT 690680-41-2

RL: **CAT (Catalyst use)**; USES (Uses)

(ring-opening polymerization catalysts; manufacture of urethane prepolymers
from polyoxyalkylene-polyester polyols for low-viscosity high-adhesiveness
adhesives)

RN 690680-41-2 HCAPLUS

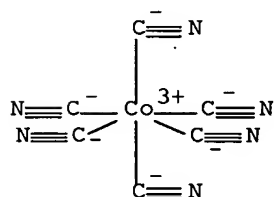
CN Cobaltate(3-), hexakis(cyano-κC)-, (OC-6-11)-, zinc, compd. with
2-(1,1-dimethylethoxy)ethanol and 2-methyl-2-propanol (2:3:?:?) (9CI) (CA
INDEX NAME)

CM 1.

CRN 14049-79-7

CMF C6 Co N6 . 3/2 Zn

CCI CCS

● 3/2 Zn²⁺

CM 2

CRN 7580-85-0

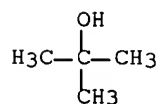
CMF C6 H14 O2

t-BuO—CH₂—CH₂—OH

CM 3

CRN 75-65-0

CMF C4 H10 O



L38 ANSWER 14 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2004:268218 HCAPLUS Full-text
 DOCUMENT NUMBER: 140:287875
 TITLE: Procedure for the production of polyether alcohols.
 PATENT ASSIGNEE(S): BASF A.-G., Germany
 SOURCE: Ger. Offen., 12 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10244283	A1	20040401	DE 2002-10244283	20020923
WO 2004029131	A1	20040408	WO 2003-EP10155	20030912
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003273863	A1	20040419	AU 2003-273863	20030912
PRIORITY APPLN. INFO.: DE 2002-10244283 A 20020923				
WO 2003-EP10155 W 20030912				

AB **Polyether polyols** are manufactured by catalytic polymerization of alkylene oxides (e. g., a mixture of propylene oxide and ethylene oxide) with multi-metal cyanide complex as a catalyst (e. g. Zn hexacyanocobaltate), thereby the free alkylene oxide content in reactor is sustained at $\leq 8\%$. **Polyether polyols** are useful in polyurethane foam manufacturing and as starters (e. g. propoxylated mixture of glycerol and monoethylene glycol) in catalytic polymerization of alkylene oxides.

IC ICM C08G065-10
 ICS C08G018-48

CC 35-7 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 37

ST **polyether polyol** alkylene oxide propylene glycol copolymer DMC catalyst; polyoxyalkylene polyurethane foam

IT Cyanides (inorganic), uses

RL: CAT (Catalyst use); USES (Uses)

(**polyether polyols**, manufactured by DMC catalytic polymerization of alkylene oxides, useful for polyurethane foam manufacture)

IT Polyoxyalkylenes, preparation

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(**polyether polyols**, manufactured by DMC catalytic polymerization of alkylene oxides, useful for polyurethane foam manufacture)

IT **Polyurethanes, preparation**

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(**polyether polyols**, manufactured by DMC catalytic polymerization of alkylene oxides, useful for polyurethane foam manufacture)

IT Plastic foams

RL: TEM (Technical or engineered material use); USES (Uses)

(**polyether polyols**, manufactured by DMC catalytic polymerization of alkylene oxides, useful for polyurethane foam manufacture)

IT **Polyurethanes, preparation**

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyoxyalkylene-; **polyether polyols**, manufactured by DMC catalytic polymerization of alkylene oxides, useful for polyurethane foam manufacture)

IT Polyoxyalkylenes, preparation

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyurethane with ethylene oxide-propylene oxide copolymer ether with glycerol and MDI-containing prepolymer; **polyether polyols**, manufactured by DMC catalytic polymerization of alkylene oxides, useful for polyurethane foam manufacture)

IT Polymerization catalysts

(ring-opening; **polyether polyols**, manufactured by DMC catalytic polymerization of alkylene oxides, useful for polyurethane foam manufacture)

IT **14049-79-7**, Zinc hexacyanocobaltate

RL: **CAT (Catalyst use)**; USES (Uses)

(**polyether polyols**, manufactured by DMC catalytic polymerization of alkylene oxides, useful for polyurethane foam manufacture)

IT 56-81-5DP, Glycerol, reaction product with ethylene oxide-propylene oxide copolymer and monoethylene glycol, polyurethane with TDI 80/20
75-21-8DP, Ethylene oxide-, polymer with propylene oxide, ether with glycerol- monoethylene glycol mixture 75-56-9DP, Propylene oxide, polymer with ethylene oxide, ether with glycerol- monoethylene glycol mixture
107-21-1DP, Monoethylene glycol, reaction product with ethylene oxide-propylene oxide copolymer and glycerol, polyurethane with TDI 80/20
25322-69-4P, Polypropylene glycol

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(**polyether polyols**, manufactured by DMC catalytic polymerization of alkylene oxides, useful for polyurethane foam manufacture)

IT 101-68-8DP, MDI, polyurethane with ethylene oxide-propylene oxide copolymer ether with glycerol and polypropylene glycol 9082-00-2DP, Ethylene oxide-propylene oxide copolymer ether with glycerol, polyurethane with polypropylene glycol and MDI-containing prepolymer 25322-69-4DP, Polypropylene glycol, polyurethane with ethylene oxide-propylene oxide copolymer ether with glycerol and MDI-containing prepolymer 26471-62-5DP, TDI, polyurethane with reaction product of oxirane polymer with glycerol and monoethylene glycol 122878-95-9DP, Lupranate T 80, polyurethane with reaction product of oxirane polymer with glycerol and monoethylene glycol
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(**polyether polyols**, manufactured by DMC catalytic polymerization of alkylene oxides, useful for polyurethane foam manufacture)

IT **14049-79-7**, Zinc hexacyanocobaltate

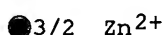
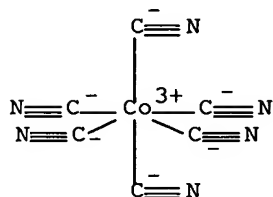
RL: **CAT (Catalyst use)**; USES (Uses)

(polyether polyols, manufactured by DMC catalytic

polymerization of alkylene oxides, useful for polyurethane foam manufacture)

RN 14049-79-7 HCAPLUS

CN Cobaltate(3-), hexakis(cyano-κC)-, zinc (2:3), (OC-6-11)- (9CI) (CA INDEX NAME)



L38 ANSWER 15 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:736410 HCAPLUS Full-text

DOCUMENT NUMBER: 140:375600

TITLE: Synthesis of low-monomer **polyether****polyols** by using highly active catalysts and their applications to high-performance polyurethanes

AUTHOR(S): Kim, Il; Ahn, Jun-Tae; Park, Inha; Lee, Sanghyun

CORPORATE SOURCE: Depart. of Polymer Sci.&Eng., Pusan National

University, Pusan, 609-735, S. Korea

SOURCE: Polyurethanes Conference 2002, Conference Proceedings, Salt Lake City, UT, United States, Oct. 13-16, 2002

(2002), 583-593. Alliance for the Polyurethanes

Industry: Arlington, Va.

CODEN: 69EMGV

DOCUMENT TYPE: Conference

LANGUAGE: English

AB Polymns. of propylene oxide have been carried out by using double metal cyanide (DMC) catalysts based on $\text{Zn}_3[\text{Co}(\text{CN})_6]_2$. By controlling the type and the amount of complexing agent during preparation of catalyst the catalytic activity, initiation time, and the unsatn. level in **polyether polyols** could be tuned. By using polytetramethylene ether glycol (PTMEG) as a co-complexing agent together with tertiarybutyl alc., conventional complexing agent, the catalytic activity was sharply improved, the initiation time became short, and the unsatn. level was greatly lowered. The selection of the type of PTMEG was also important to maximize the effect of co-complexing agent. Various catalysts prepared by changing the complexing agent were characterized by XPS, IR spectroscopy, and x-ray powder diffraction. ^{13}C NMR anal. showed that the polyols have a random distribution of the configurational sequences and head-to-tail regiosequence, even if the amount of [rr] **triad** of polyol produced by DMC catalyst was larger than that of polyol by conventional KOH catalyst. The distortionless enhancement by polarization transfer anal. showed that there exist regioirregular sequences as well. The stress-strain curves of methylene diisocyanate/1,4-butanediol cured polyurethanes showed that the monol content contained in polyol showed a dramatic effect on the mech. properties of resulting polyurethane.

- CC 35-5 (Chemistry of Synthetic High Polymers)
- IT Polymerization catalysts
(in preparation of low-monomer **polyether polyols** by using highly active catalysts)
- IT Polyoxyalkylenes, preparation
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in preparation of low-monomer **polyether polyols** by using highly active catalysts)
- IT Elongation, mechanical
Glass transition temperature
Stress-strain relationship
Tensile strength
(of polyurethanes prepared from low-monomer **polyether polyols**)
- IT **Polyurethanes, preparation**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyoxyalkylene-, block; preparation of low-monomer **polyether polyols** by using highly active catalysts and their applications to high-performance polyurethanes)
- IT Polyoxyalkylenes, preparation
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of low-monomer **polyether polyols** by using highly active catalysts and their applications to high-performance polyurethanes)
- IT 7646-85-7, Zinc chloride (ZnCl₂), reactions 13963-58-1, Potassium hexacyanocobaltate
RL: RCT (Reactant); RACT (Reactant or reagent)
(in preparation of catalyst for low-monomer **polyether polyols**)
- IT 75-65-0, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(in preparation of low-monomer **polyether polyols** by using highly active catalysts)
- IT 25322-69-4P, Polypropylene glycol
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in preparation of low-monomer **polyether polyols** by using highly active catalysts)
- IT **106208-51-9P**, 1,4-Butanediol-MDI-polypropylene glycol block copolymer
RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of low-monomer **polyether polyols** and their applications to high-performance polyurethanes)
- IT **14049-79-7P**, Zinc hexacyanocobaltate
RL: **CAT (Catalyst use)**; SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation of low-monomer **polyether polyols** by using highly active catalysts)
- IT 25190-06-1, Polytetramethylene ether glycol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of low-monomer **polyether polyols** by using highly active catalysts)
- IT **106208-51-9P**, 1,4-Butanediol-MDI-polypropylene glycol block copolymer
RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of low-monomer **polyether polyols** and their

applications to high-performance polyurethanes)

RN 106208-51-9 HCAPLUS

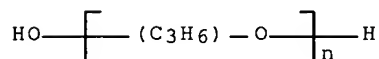
CN 1,4-Butanediol, polymer with α -hydro- ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,1'-methylenebis[4-isocyanatobenzene], block (9CI) (CA INDEX NAME)

CM 1

CRN 25322-69-4

CMF (C3 H6 O)_n H2 O

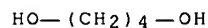
CCI IDS, PMS



CM 2

CRN 110-63-4

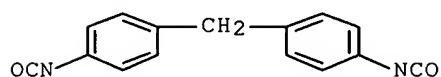
CMF C4 H10 O2



CM 3

CRN 101-68-8

CMF C15 H10 N2 O2



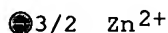
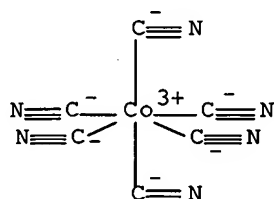
IT 14049-79-7P, Zinc hexacyanocobaltate

RL: **CAT (Catalyst use)**; SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation of low-monomer **polyether polyols** by using highly active catalysts)

RN 14049-79-7 HCAPLUS

CN Cobaltate(3-), hexakis(cyano- κ C)-, zinc (2:3), (OC-6-11)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 16 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:646725 HCAPLUS Full-text

DOCUMENT NUMBER: 139:181160

TITLE: **Polyoxyalkylene polyols** with low

OH value, their manufacture without adsorbents, and manufacture of flexible polyurethane foams

INVENTOR(S): Kuribayashi, Katsuji; Sasaki, Takayuki; Kimura, Yuji

PATENT ASSIGNEE(S): Asahi Glass Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003231747	A2	20030819	JP 2002-31311	20020207
PRIORITY APPLN. INFO.:			JP 2002-31311	20020207

AB The polyols, having OH value of ≤ 15 mgKOH/g and the number of OH of 2-8, include ethylene oxide-C \leq 3 alkylene oxide random copolymer chains (ethylene oxide content of 1-60%) manufactured by using mixed metal cyanide complex catalysts. Thus, ethylene oxide was polymerized with propylene oxide in the presence of propylene glycol glycerin ether and Zn₃[Co(CN)₆]₂-glyme complex to give a random copolymer (OH value 6.9 mgKOH/g), 100 parts of which was foamed with ethylene oxide-propylene oxide block copolymer sorbitol ether 10, Coronate T 80 (2,4-TDI-2,6-TDI mixture) 53.7, water 5 parts and other additives to give a foam showing core d. 22.6 kg/m³, 25% hardness 78 N/314 cm², and hysteresis loss 39.3%.

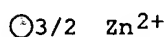
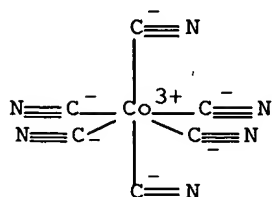
IC ICM C08G065-28
ICS C08G018-48; C08G065-10; C08G101-00

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 37

IT Polyoxyalkylenes, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manufacture of **polyoxyalkylene polyols** with low OH value without adsorbents for manufacture of flexible polyurethane foams)

IT Plastic foams
RL: TEM (Technical or engineered material use); USES (Uses)
(manufacture of **polyoxyalkylene polyols** with low OH value without adsorbents for manufacture of flexible polyurethane foams)

- IT Polymerization catalysts
(mixed metal cyanide complexes; manufacture of **polyoxyalkylene polyols** with low OH value without adsorbents for manufacture of flexible polyurethane foams)
- IT Polyurethanes, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyoxyalkylene-, crosslinked; manufacture of **polyoxyalkylene polyols** with low OH value without adsorbents for manufacture of flexible polyurethane foams)
- IT 110-71-4D, Glyme, complex with zinc hexacyanocobaltate **14049-79-7D**, Zinc hexacyanocobaltate, glyme complex
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts; manufacture of **polyoxyalkylene polyols** with low OH value without adsorbents for manufacture of flexible polyurethane foams)
- IT **57516-88-8P**, Ethylene oxide-propylene oxide copolymer glycerin ether-2,4-TDI-2,6-TDI copolymer **117197-73-6P**, Coronate T 80-ethylene oxide-propylene oxide copolymer glycerin ether copolymer **577965-49-2P**, Coronate T 80-ethylene oxide-propylene oxide copolymer glycerin ether-ethylene oxide-propylene oxide block copolymer sorbitol ether copolymer **577965-51-6P**, Ethylene oxide-propylene oxide copolymer glycerin ether-ethylene oxide-propylene oxide block copolymer sorbitol ether-2,4-TDI-2,6-TDI copolymer
RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(crosslinked; manufacture of **polyoxyalkylene polyols** with low OH value without adsorbents for manufacture of flexible polyurethane foams)
- IT 9082-00-2P, Ethylene oxide-propylene oxide copolymer glycerin ether
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manufacture of **polyoxyalkylene polyols** with low OH value without adsorbents for manufacture of flexible polyurethane foams)
- IT **14049-79-7D**, Zinc hexacyanocobaltate, glyme complex
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts; manufacture of **polyoxyalkylene polyols** with low OH value without adsorbents for manufacture of flexible polyurethane foams)
- RN 14049-79-7 HCAPLUS
- CN Cobaltate(3-), hexakis(cyano-κC)-, zinc (2:3), (OC-6-11)-(9CI) (CA INDEX NAME)



- IT **57516-88-8P**, Ethylene oxide-propylene oxide copolymer glycerin

ether-2,4-TDI-2,6-TDI copolymer **117197-73-6P**, Coronate T
 80-ethylene oxide-propylene oxide copolymer glycerin ether copolymer
577965-49-2P, Coronate T 80-ethylene oxide-propylene oxide
 copolymer glycerin ether-ethylene oxide-propylene oxide block copolymer
 sorbitol ether copolymer **577965-51-6P**, Ethylene oxide-propylene
 oxide copolymer glycerin ether-ethylene oxide-propylene oxide block
 copolymer sorbitol ether-2,4-TDI-2,6-TDI copolymer

RL: **IMF** (**Industrial manufacture**); TEM (Technical or engineered
 material use); **PREP** (**Preparation**); USES (Uses)

(crosslinked; manufacture of **polyoxyalkylene polyols**
 with low OH value without adsorbents for manufacture of flexible
 polyurethane foams)

RN 57516-88-8 HCAPLUS

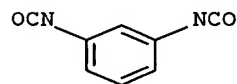
CN Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol
 (3:1), polymer with 1,3-diisocyanatomethylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



D1-Me

CM 2

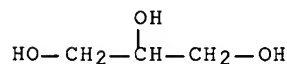
CRN 9082-00-2

CMF C3 H8 O3 . 3 (C3 H6 O . C2 H4 O)x

CM 3

CRN 56-81-5

CMF C3 H8 O3



CM 4

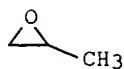
CRN 9003-11-6

CMF (C3 H6 O . C2 H4 O)x

CCI PMS

CM 5

CRN 75-56-9
CMF C3 H6 O



CM 6

CRN 75-21-8
CMF C2 H4 O



RN 117197-73-6 HCAPLUS
CN Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with Coronate T 80 (9CI) (CA INDEX NAME)

CM 1

CRN 91825-07-9
CMF Unspecified
CCI PMS, MAN

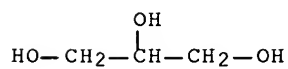
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 9082-00-2
CMF C3 H8 O3 . 3 (C3 H6 O . C2 H4 O) x

CM 3

CRN 56-81-5
CMF C3 H8 O3



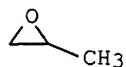
CM 4

CRN 9003-11-6
CMF (C3 H6 O . C2 H4 O) x
CCI PMS

CM 5

CRN 75-56-9

CMF C3 H6 O



CM 6

CRN 75-21-8

CMF C2 H4 O



RN 577965-49-2 HCAPLUS

CN Oxirane, methyl-, polymer with oxirane, ether with D-glucitol (6:1),
 block, polymer with Coronate T 80 and methyloxirane polymer with oxirane
 ether with 1,2,3-propanetriol (3:1) (9CI) (CA INDEX NAME)

CM 1

CRN 91825-07-9

CMF Unspecified

CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 111445-43-3

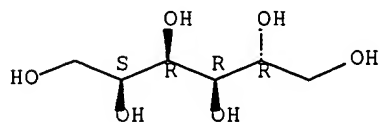
CMF C6 H14 O6 . 6 (C3 H6 O . C2 H4 O)x

CM 3

CRN 50-70-4

CMF C6 H14 O6

Absolute stereochemistry.



CM 4

CRN 106392-12-5

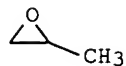
CMF (C3 H6 O . C2 H4 O) x

CCI PMS

CM 5

CRN 75-56-9

CMF C3 H6 O



CM 6

CRN 75-21-8

CMF C2 H4 O



CM 7

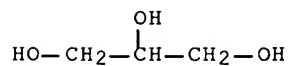
CRN 9082-00-2

CMF C3 H8 O3 . 3 (C3 H6 O . C2 H4 O) x

CM 8

CRN 56-81-5

CMF C3 H8 O3



CM 9

CRN 9003-11-6

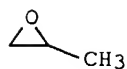
CMF (C3 H6 O . C2 H4 O) x

CCI PMS

CM 10

CRN 75-56-9

CMF C3 H6 O



CM 11

CRN 75-21-8

CMF C2 H4 O



RN 577965-51-6 HCAPLUS

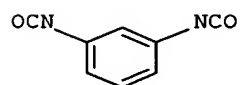
CN Oxirane, methyl-, polymer with oxirane, ether with D-glucitol (6:1),
 block, polymer with 1,3-diisocyanatomethylbenzene and methyloxirane
 polymer with oxirane ether with 1,2,3-propanetriol (3:1) (9CI) (CA INDEX
 NAME)

CM 1

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



D1-Me

CM 2

CRN 111445-43-3

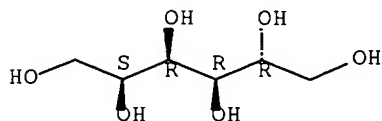
CMF C6 H14 O6 . 6 (C3 H6 O . C2 H4 O)x

CM 3

CRN 50-70-4

CMF C6 H14 O6

Absolute stereochemistry.



CM 4

CRN 106392-12-5

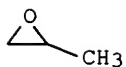
CMF (C3 H6 O . C2 H4 O) x

CCI PMS

CM 5

CRN 75-56-9

CMF C3 H6 O



CM 6

CRN 75-21-8

CMF C2 H4 O



CM 7

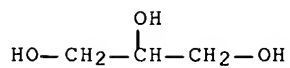
CRN 9082-00-2

CMF C3 H8 O3 . 3 (C3 H6 O . C2 H4 O) x

CM 8

CRN 56-81-5

CMF C3 H8 O3



CM 9

CRN 9003-11-6

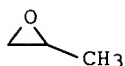
CMF (C3 H6 O . C2 H4 O)x

CCI PMS

CM 10

CRN 75-56-9

CMF C3 H6 O



CM 11

CRN 75-21-8

CMF C2 H4 O



L38 ANSWER 17 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:641012 HCAPLUS Full-text

DOCUMENT NUMBER: 140:271250

TITLE: Synthesis of ultra-low monol **polyether polyols** by multi-metal catalysts

AUTHOR(S): Kim, Il; Ahn, Jun-Tae; Park, Dae-Won; Lee, Sang-Hyun; Park, Inha

CORPORATE SOURCE: Dept. of Polymer Science and Engineering, Pusan National University, Pusan, 609-735, S. Korea

SOURCE: Studies in Surface Science and Catalysis (2003), 145(Science and Technology in Catalysis 2002), 529-530
CODEN: SSCTDM; ISSN: 0167-2991

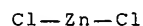
PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

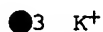
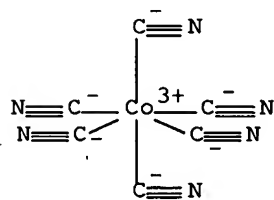
LANGUAGE: English

AB Polymns. of propylene oxide (PO) have been carried out by using double metal cyanide (DMC) catalysts based on $\text{Zn}_3[\text{Co}(\text{CN})_6]_2$. By using complexing agent during preparation of catalyst, the catalytic activity, initiation time, and the unsatn. level in **polyether polyols** could be tuned. The catalysts were characterized by XPS, IR spectroscopy, arid x-ray powder diffraction. ^{13}C NMR anal. showed that the polyols have a random distribution of the configurational sequences. The stress-strain curves of methylene

- diisocyanate/1,4-butanediol cured polyurethanes (PU) showed that the monol content of polyol showed a dramatic effect on the mech. properties of PU.
- CC 35-3 (Chemistry of Synthetic High Polymers)
- IT **Polyurethanes, preparation**
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (polyoxyalkylene-; preparation of ultralow monol polypropylene glycol by multi-metal catalysts)
- IT 7646-85-7, Zinc chloride, uses 13963-58-1, Potassium hexacyanocobaltate
 RL: **CAT (Catalyst use)**; USES (Uses)
 (preparation of ultralow monol polypropylene glycol by multi-metal catalysts)
- IT 37205-91-7P, 1,4-Butanediol-MDI-polypropylene glycol copolymer
 RL: PRP (Properties); **SPN (Synthetic preparation)**; **PREP (Preparation)**
 (preparation of ultralow monol polypropylene glycol by multi-metal catalysts)
- IT 7646-85-7, Zinc chloride, uses 13963-58-1, Potassium hexacyanocobaltate
 RL: **CAT (Catalyst use)**; USES (Uses)
 (preparation of ultralow monol polypropylene glycol by multi-metal catalysts)
- RN 7646-85-7 HCAPLUS
- CN Zinc chloride (ZnCl₂) (9CI) (CA INDEX NAME)



- RN 13963-58-1 HCAPLUS
- CN Cobaltate(3-), hexakis(cyano-κC)-, tripotassium, (OC-6-11)- (9CI)
 (CA INDEX NAME)



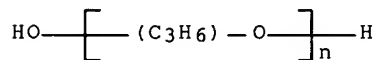
- IT 37205-91-7P, 1,4-Butanediol-MDI-polypropylene glycol copolymer
 RL: PRP (Properties); **SPN (Synthetic preparation)**; **PREP (Preparation)**
 (preparation of ultralow monol polypropylene glycol by multi-metal catalysts)
- RN 37205-91-7 HCAPLUS
- CN 1,4-Butanediol, polymer with α-hydro-ω-hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

CM 1

CRN 25322-69-4

CMF (C3 H6 O)_n H2 O

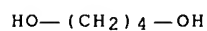
CCI IDS, PMS



CM 2

CRN 110-63-4

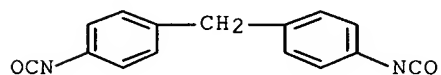
CMF C4 H10 O2



CM 3

CRN 101-68-8

CMF C15 H10 N2 O2



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 18 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:610105 HCAPLUS Full-text

DOCUMENT NUMBER: 139:150084

TITLE: Process for the copolymerization of alkylene oxides and carbon dioxide using suspensions of multi-metal cyanide compounds

INVENTOR(S): Hinz, Werner; Dexheimer, Edward M.; Bohres, Edward; Grosch, Georg Heinrich

PATENT ASSIGNEE(S): BASF Corp., USA

SOURCE: U.S. Pat. Appl. Publ., 11 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003149232	A1	20030807	US 2002-66855	20020204
US 6762278	B2	20040713		
CA 2418435	AA	20030804	CA 2003-2418435	20030203
PRIORITY APPLN. INFO.:			US 2002-66855	A 20020204

AB A method of forming a **polyether**-carbonate **polyol** using a multimetal cyanide compound is disclosed. The method includes providing a multi-metal cyanide compound having a crystalline structure and a content of platelet-shaped particles of at least 30%, based on the weight of the multimetal cyanide compound and further including at least two of the following components: an organic complexing agent, water, a polyether, and a surface-active substance. Then an alc. initiator is reacted with at least one alkylene oxide and carbon dioxide under a pos. pressure in the presence of the multimetal cyanide compound, thereby forming the **polyether**-carbonate **polyol**.

IC ICM C08G059-68

INCL 528412000

CC 35-3 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 37

IT **Polyurethanes, preparation**
RL: IMF (Industrial manufacture); PREP (Preparation)
(polycarbonate-polyoxyalkylene-, foamed; process for copolymn. of alkylene oxides and carbon dioxide using suspensions of multi-metal cyanide compds.)

IT **573714-85-9P**
RL: IMF (Industrial manufacture); PREP (Preparation)
(foamed; process for copolymn. of alkylene oxides and carbon dioxide using suspensions of multi-metal cyanide compds.)

IT **557-34-6DP**, Zinc acetate, multi-metal cyanide compds.
19528-17-7DP, Hexacyanocobaltic acid, multi-metal cyanide compds.
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(process for copolymn. of alkylene oxides and carbon dioxide using suspensions of multi-metal cyanide compds.)

IT **573714-85-9P**
RL: IMF (Industrial manufacture); PREP (Preparation)
(foamed; process for copolymn. of alkylene oxides and carbon dioxide using suspensions of multi-metal cyanide compds.)

RN 573714-85-9 HCAPLUS

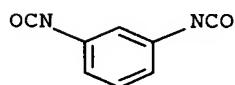
CN Oxirane, methyl-, polymer with carbon dioxide, 1,3-diisocyanatomethylbenzene and $\alpha, \alpha', \alpha''$ -1,2,3-propanetriyltris[ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)]] (9CI)
(CA INDEX NAME)

CM 1

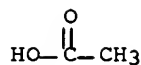
CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS

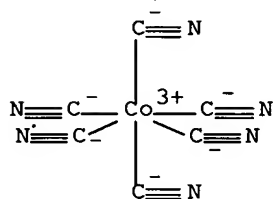


D1-Me



● 1/2 Zn

RN 19528-17-7 HCAPLUS

CN Cobaltate(3-), hexakis(cyano-κC)-, trihydrogen, (OC-6-11)- (9CI)
(CA INDEX NAME)● 3 H⁺

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 19 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:443903 HCAPLUS Full-text

DOCUMENT NUMBER: 139:7386

TITLE: Double metal cyanide complex-containing slurry catalysts, their manufacture in short time, and manufacture of polyether poly- or monoools as materials for polyurethane foams

INVENTOR(S): Sugiyama, Kayoko; Suzuki, Chitoshi

PATENT ASSIGNEE(S): Asahi Glass Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003165836	A2	20030610	JP 2001-365061	20011129
PRIORITY APPLN. INFO.:			JP 2001-365061	20011129
OTHER SOURCE(S):	MARPAT 139:7386			

AB Title catalysts comprise double metal cyanides (prepared from metal halides and alkali metal cyanometalates) coordinated by organic ligands containing R1CMe2(OR0)nOH [R1 = Me, Et; R0 = (Me- or Et-substituted) CH2CH2; n = 1-3] dispersed at 2-20% in compds. bearing 1-4 OH and mol. weight 400-3000. Thus, ZnCl2 was reacted with K3Co(CN)6, successively reacted with ethylene glycol mono-tert-Bu ether (I), filtered, the cake double with I-H2O mixture, filtered, and dispersed in I and polyoxypropylene diol with mol. weight 1500

to give a slurry catalyst. Propylene oxide was polymerized in the presence of 200 ppm of the catalyst and poly(propylene oxide) glycerin ether to give a **polyether polyol** with mol. weight distribution 1.10 with induction time 40 min.

IC ICM C08G065-10

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 37

IT **Polyurethanes, preparation**

RL: PNU (Preparation, unclassified); PREP (Preparation)

(polyoxyalkylene-; double metal cyanide complex-containing slurry catalysts for manufacture of polyether poly- or monools as materials for high-quality polyurethane foams)

IT **14049-79-7DP**, Zinc hexacyanocobaltate, complexes with ethylene glycol monoethers

RL: **CAT (Catalyst use)**; IMF (Industrial manufacture); PREP

(Preparation); USES (Uses)

(double metal cyanide complex-containing slurry catalysts for manufacture

of

polyether poly- or monools as materials for high-quality polyurethane foams)

IT **14049-79-7DP**, Zinc hexacyanocobaltate, complexes with ethylene glycol monoethers

RL: **CAT (Catalyst use)**; IMF (Industrial manufacture); PREP

(Preparation); USES (Uses)

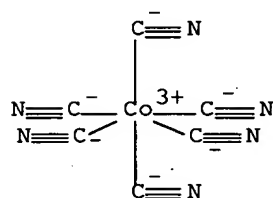
(double metal cyanide complex-containing slurry catalysts for manufacture

of

polyether poly- or monools as materials for high-quality polyurethane foams)

RN 14049-79-7 HCAPLUS

CN Cobaltate(3-), hexakis(cyano-κC)-, zinc (2:3), (OC-6-11)- (9CI) (CA INDEX NAME)



●3/2 Zn²⁺

L38 ANSWER 20 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:396947 HCAPLUS Full-text

DOCUMENT NUMBER: 138:385947

TITLE: Manufacture of polyether alcohols by alkoxylation of H-functional precursors with microporous double metal cyanide catalysts

INVENTOR(S): Bohres, Edward; Mueller, Ulrich; Ruppel, Raimund; Baum, Eva

PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany

SOURCE: PCT Int. Appl., 27 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003042280	A1	20030522	WO 2002-EP12492	20021108
WO 2003042280	C1	20041014		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10156117	A1	20030528	DE 2001-10156117	20011115
EP 1448664	A1	20040825	EP 2002-802998	20021108
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
JP 2005509070	T2	20050407	JP 2003-544112	20021108
US 2004249221	A1	20041209	US 2004-493608	20040423
PRIORITY APPLN. INFO.:				
			DE 2001-10156117	A 20011115
			WO 2002-EP12492	W 20021108
AB	Polyether alcs., useful for the manufacture of (cellular) polyurethanes, were manufactured by alkoxylation of H-functional precursors in the presence of porous double metal cyanide catalysts having surface area >100 m ² /g, preferably >450 m ² /g. The catalyst have high activity with short induction period. For example, ethoxylation-propoxylation of ethoxylated glycerol (OH number 152 mg KOH/g) at 120° in the presence of 100 ppm of double metal cyanide catalyst containing 25.6% Co and 11.9% Zn, having surface area 375 m ² /g (preparation given), gave polyether polyol with OH number 47.1 mg KOH/g and viscosity 599 mPa·s. The catalyst activation time was 7 min.			
IC	ICM C08G065-26 ICS B01J027-26; C08G018-48			
CC	35-7 (Chemistry of Synthetic High Polymers) Section cross-reference(s): 38, 67			
IT	Polyurethanes, preparation RL: IMF (Industrial manufacture); PREP (Preparation) (polyoxyalkylene-, cellular; manufacture of polyether alcs. by alkoxylation of H-functional precursors using microporous double metal cyanide catalysts)			
IT	7440-48-4, Cobalt, uses 7440-66-6, Zinc, uses RL: CAT (Catalyst use) ; USES (Uses) (manufacture of polyether alcs. by alkoxylation of H-functional precursors using microporous double metal cyanide catalysts)			
IT	7440-48-4, Cobalt, uses 7440-66-6, Zinc, uses RL: CAT (Catalyst use) ; USES (Uses) (manufacture of polyether alcs. by alkoxylation of H-functional precursors using microporous double metal cyanide catalysts)			
RN	7440-48-4 HCAPLUS			
CN	Cobalt (8CI, 9CI) (CA INDEX NAME)			

RN 7440-66-6 HCAPLUS
 CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 21 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:341219 HCAPLUS Full-text

DOCUMENT NUMBER: 139:117765

TITLE: Polymerization of propylene oxide by using double
 metal cyanide catalysts and the application to
 polyurethane elastomer

AUTHOR(S): Kim, Il; Ahn, Jun-Tae; Ha, Chang Sik; Yang, Chul Sik;
 Park, Inha

CORPORATE SOURCE: Department of Polymer Science and Engineering, Pusan
 National University, Jangjeon-dong, Geumjeong-gu,
 Pusan, 609-735, S. Korea

SOURCE: Polymer (2003), 44(11), 3417-3428
 CODEN: POLMAG; ISSN: 0032-3861

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Polymns. of propylene oxide have been carried out by using double metal
 cyanide (DMC) catalysts based on $\text{Zn}_3[\text{Co}(\text{CN})_6]_2$. By controlling the type and
 the amount of complexing agent during preparation of catalyst the catalytic
 activity, initiation time, and the unsatn. level in **polyether polyols** could be
 tuned. Various catalysts prepared by changing the complexing and co-
 complexing agents were characterized by XPS, IR spectroscopy, and X-ray powder
 diffraction. Highly active catalyst prepared by choosing a polytetramethylene
 ether glycol as a co-complexing agent resulted in polyoxypropylenes (POP) with
 low very low unsatn. level (0.003-0.006 meq/g) and with narrow mol. weight
 distribution (MWD = 1.02-1.04). The active sites of DMC-catalyzed
 polymerization of propylene oxide have both cationic and coordinative
 characters. Anal. of ^{13}C NMR showed that the polyols have a random
 distribution of the configurational sequences and head-to-tail regio sequence,
 even if the amount of [rr] **triad** of polyol produced by DMC catalyst was larger
 than that of polyol by conventional KOH catalyst. The distortionless
 enhancement by polarization transfer anal. showed that there exist regio
 irregular sequences as well. The stress-strain curves of methylene
 diisocyanate/1,4-butanediol cured POP-based polyurethane elastomers showed
 that the unsatn. content contained in POP showed a dramatic effect on the
 mech. properties.

CC 35-7 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 39, 67

IT 14049-79-7P, Zinc hexacyanocobaltate

RL: **CAT (Catalyst use)**; SPN (Synthetic preparation); PREP
 (Preparation); USES (Uses)

(polymerization catalyst; preparation of polypropylene glycol using double
 metal cyanide catalysts for polyurethane elastomers)

IT 106208-51-9P, 1,4-Butanediol-MDI-polypropylene glycol block
 copolymer 115708-98-0P, 1,4-Butanediol-MDI-polypropylene glycol

glycerol ether copolymer

RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**

(rubber; preparation of polypropylene glycol using double metal cyanide catalysts for polyurethane elastomers)

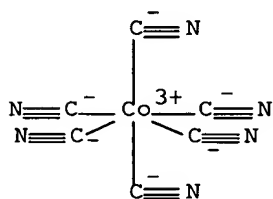
IT **14049-79-7P**, Zinc hexacyanocobaltate

RL: **CAT (Catalyst use)**; SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(polymerization catalyst; preparation of polypropylene glycol using double metal cyanide catalysts for polyurethane elastomers)

RN 14049-79-7 HCAPLUS

CN Cobaltate(3-), hexakis(cyano-κC)-, zinc (2:3), (OC-6-11)-(9CI) (CA INDEX NAME)



● $3/2$ Zn^{2+}

IT **106208-51-9P**, 1,4-Butanediol-MDI-polypropylene glycol block copolymer **115708-98-0P**, 1,4-Butanediol-MDI-polypropylene glycol glycerol ether copolymer

RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**

(rubber; preparation of polypropylene glycol using double metal cyanide catalysts for polyurethane elastomers)

RN 106208-51-9 HCAPLUS

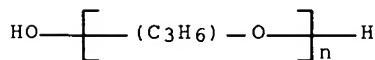
CN 1,4-Butanediol, polymer with α-hydro-ω-hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,1'-methylenebis[4-isocyanatobenzene], block (9CI) (CA INDEX NAME)

CM 1

CRN 25322-69-4

CMF (C3 H6 O)_n H2 O

CCI IDS, PMS



CM 2

CRN 110-63-4

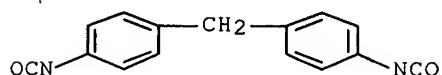
CMF C4 H10 O2

HO—(CH₂)₄—OH

CM 3

CRN 101-68-8

CMF C15 H10 N2 O2



RN 115708-98-0 HCAPLUS

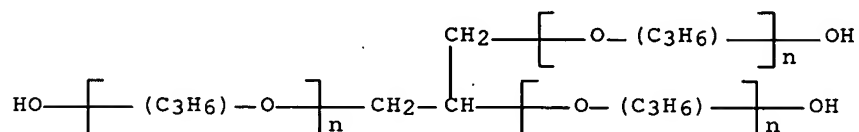
CN 1,4-Butanediol, polymer with 1,1'-methylenebis[4-isocyanatobenzene] and α,α',α'' -1,2,3-propanetriyltris[ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)]] (9CI) (CA INDEX NAME)

CM 1

CRN 25791-96-2

CMF (C3 H6 O)_n (C3 H6 O)_n (C3 H6 O)_n C3 H8 O3

CCI IDS, PMS



CM 2

CRN 110-63-4

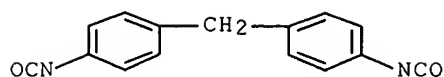
CMF C4 H10 O2

HO—(CH₂)₄—OH

CM 3

CRN 101-68-8

CMF C15 H10 N2 O2



REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 22 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:129133 HCAPLUS Full-text

DOCUMENT NUMBER: 139:7311

TITLE: Sequence structure of polyether catalyzed by Fe-Zn double-metal cyanide complex catalysts

AUTHOR(S): Chen, Su; Chen, Li

CORPORATE SOURCE: Chemical College, Nanjing University of Technology, Nanjing, 210009, Peop. Rep. China

SOURCE: Colloid and Polymer Science (2003), 281(3), 288-291
CODEN: CPMSB6; ISSN: 0303-402X

PUBLISHER: Springer-Verlag

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A double-metal cyanide (DMC) complex catalyst was prepared by reaction of an aqueous solution of zinc chloride and potassium hexacyanoferrate with complexing agents to form the DMC precipitate. The DMC was combined with organic complexing agents such as t-butanol and polyols to obtain active catalysts for use in synthesis of polyethers. The complexing agent was incorporated into the catalyst structure and was required for activity. **Polyether polyols** were synthesized using the DMC catalysts by ring opening polymerization of propylene oxide and glycerol, to obtain poly(oxypropylene) and propylene oxide-glycerol copolymer. High-resolution ¹³C NMR and ¹H NMR spectra were used to identify the sequence and stereo-irregular structure of the **polyether polyols**. Head-tail addition and a random stereo-irregular structure were dominant in the microstructure of the **polyether polyols**.

CC 35-7 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36

ST zinc iron cyanide prepn complex tertbutanol polyether structure; ring opening polymn catalyst zinc iron cyanide complex; propylene oxide ring opening polymn zinc iron cyanide catalyst; polyoxyalkylene chain sequence **stereoregular** structure catalyst role

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 23 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:55036 HCAPLUS Full-text

DOCUMENT NUMBER: 138:107184

TITLE: Producing a polyol and a polymer dispersed polyol for a polyurethane soft foam

INVENTOR(S): Toyota, Yoshinori; Horie, Akio; Wada, Hiroshi; Sugiyama, Kayoko; Akagi, Etsuko

PATENT ASSIGNEE(S): Asahi Glass Company Ltd., Japan

SOURCE: Eur. Pat. Appl., 20 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1277775	A1	20030122	EP 2002-15683	20020717
EP 1277775	B1	20060927		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
CN 1400231	A	20030305	CN 2002-128299	20020716
CA 2393891	AA	20030118	CA 2002-2393891	20020717
JP 2003301041	A2	20031021	JP 2002-207976	20020717
TW 242570	B1	20051101	TW 2002-91115957	20020717
EP 1632513	A1	20060308	EP 2005-22134	20020717
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR, BG, CZ, EE, SK				
US 2003100801	A1	20030529	US 2002-197528	20020718
US 6815467	B2	20041109		
PRIORITY APPLN. INFO.:			JP 2001-218348	A 20010718
			JP 2002-32839	A 20020208
			EP 2002-15683	A3 20020717
AB	A polyoxyalkylene polyol is made by subjecting propylene oxide and ethylene oxide to ring-opening addition polymerization in the presence of a catalyst, a double metal cyanide complex catalyst forming an oxypropylene block chain, subjecting ethylene oxide and propylene oxide to ring-opening addition polymerization randomly to form an oxyalkylene random chain, changing the catalyst and subjecting ethylene oxide to ring-opening addition polymerization in the presence of an alkali metal catalyst to form an oxyethylene block chain, to give a polyoxyalkylene polyol having a hydroxyl value 5-56 mg KOH/g, initiator residue $\leq 25\%$, oxypropylene block content 5-50%, oxyethylene group content 5-60%, and a ratio of primary hydroxyl groups among terminal hydroxyl groups $\geq 60 \text{ mol}\%$. A foam formulation contained polymer polyol EO/PO block copolymer glycerol ether (OH value 27.3) 60, acrylonitrile-styrene copolymer particles dispersed in EO/PO copolymer glycerol ether 40, EO/PO copolymer sorbitol ether 3.0, diethanolamine 1.0, catalyst 0.72, foam stabilizer 1.0, blowing agent 3.0, and isocyanate (Coronate 1021) to give isocyanate index 105. The foam had d. 48.4 kg/m ³ , heat/humidity permanent compression set (JIS K6400) 10.3%, resonance frequency (JASO B407-87) 3.3 Hz, and crush load 588 N.			
IC	ICM C08G018-48 ICS C08G018-76; C08G018-08; C08G065-26			
CC	35-7 (Chemistry of Synthetic High Polymers) Section cross-reference(s): 38			
ST	polyoxyalkylene polyol polyurethane soft foam; ethylene oxide propylene oxide block copolymer polyol			
IT	Polyurethanes, preparation RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polyoxyalkylene-; producing polyoxyalkylene dispersed polyol for urethane foam with balance of hardness, vibration, and durability)			
IT	Polymerization catalysts (ring-opening, dual; double metal cyanide complex and alkali metal for preparation of polyoxyalkylene polyols)			
IT	75-65-0D, tert-Butyl alcohol, zinc hexacyanocobaltate complex 110-71-4D, Glyme, zinc hexacyanocobaltate complex 124-41-4, Sodium methoxide 1310-58-3, Potassium hydroxide, uses 7580-85-0D, Ethylene glycol mono-tert-butyl ether, zinc hexacyanocobaltate complex 14049-79-7D , Zinc hexacyanocobaltate, complex with ethylene glycol ethers RL: CAT (Catalyst use) ; USES (Uses) (producing polyoxyalkylene dispersed polyol for urethane foam with balance of hardness, vibration, and durability)			
IT	14049-79-7D , Zinc hexacyanocobaltate, complex with ethylene glycol			

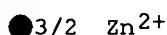
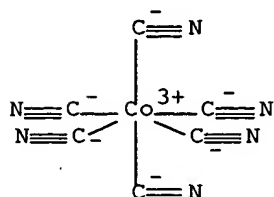
ethers

RL: **CAT (Catalyst use)**; USES (Uses)

(producing polyoxyalkylene dispersed polyol for urethane foam with balance of hardness, vibration, and durability)

RN 14049-79-7 HCAPLUS

CN Cobaltate(3-), hexakis(cyano-κC)-, zinc (2:3), (OC-6-11)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 24 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:941805 HCAPLUS Full-text

DOCUMENT NUMBER: 138:14315

TITLE: A process for in-situ production of a blend of polyether monol and **polyether polyol** useful for viscoelastic polyurethane foams

INVENTOR(S): Reese, Ii Jack R.; Hager, Stanley L.

PATENT ASSIGNEE(S): Bayer Antwerpen, N.V., Belg.

SOURCE: U.S., 16 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6491846	B1	20021210	US 2001-886510	20010621
CA 2450785	AA	20030103	CA 2002-2450785	20020613
WO 2003000770	A1	20030103	WO 2002-IB3084	20020613
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1401912	A1	20040331	EP 2002-749250	20020613
EP 1401912	B1	20050601		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				

CN 1518572	A	20040804	CN 2002-812472	20020613
BR 2002010587	A	20040810	BR 2002-10587	20020613
JP 2004530767	T2	20041007	JP 2003-507170	20020613
AT 296849	E	20050615	AT 2002-749250	20020613
PT 1401912	T	20051031	PT 2002-749250	20020613
ES 2242871	T3	20051116	ES 2002-2749250	20020613
TW 593390	B	20040621	TW 2002-91113416	20020620
HK 1068359	A1	20060908	HK 2005-100537	20050120
PRIORITY APPLN. INFO.:			US 2001-886510	A 20010621
			WO 2002-IB3084	W 20020613

- AB The process comprises steps of: (1) introducing a mixture containing an initial starter (a monol, A) and a double metal cyanide (DMC) catalyst into a reaction vessel, (2) feeding an epoxide mixture (B) containing propylene oxide and ethylene oxide into the vessel, (3) allowing B to react with A, (4) continuously adding A while continuing to feed B, and (5) allowing the mixture to polymerize until the resultant blend of polyether monol and **polyether polyol** has an average equivalent weight 350-750, and an average functionality 2-4. An example was in-situ prepared from a monol, propylene oxide and glycerin in the presence of zinc hexacyanocobalt tert-butanol complex as catalyst to give a blend of polyoxypropylene monol and polyoxypropylene triol, which was mixed and reacted with TDI to give a flexible polyurethane foam.
- IC ICM C08G018-14
- INCL 252182270; 252182240; 521170000; 521174000
- CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 38
- ST **polyether** monol **polyol** blend insitu prodn viscoelastic polyurethane foam; polyoxypropylene monol triol mixt TDI flexible polyurethane foam prepn
- IT Etherification catalysts
(for in-situ production of **polyether** monol and **polyol** mixture useful for viscoelastic polyurethane foams)
- IT **Polyethers, preparation**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(**hydroxy-containing**; manufacture of viscoelastic polyurethane foams using in-situ prepared **polyether** monol and **polyol** mixture)
- IT Plastic foams
Polyurethanes, preparation
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(manufacture of viscoelastic polyurethane foams using in-situ prepared **polyether** monol and **polyol** mixture)
- IT Polyoxyalkylenes, preparation
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(monol derivs., reaction product with polyoxypropylene triol, propylene glycol and TDI; manufacture of viscoelastic polyurethane foams using in-situ prepared **polyether** monol and **polyol** mixture)
- IT Polyoxyalkylenes, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(monol derivs.; in-situ production of **polyether** monol and **polyol** mixture useful for viscoelastic polyurethane foams)
- IT 75-65-0D, tert-Butanol, zinc hexacyanocobaltate complex
14049-79-7D, Zinc hexacyanocobaltate, tert-butanol complex
RL: **CAT (Catalyst use)**; USES (Uses)
(etherification catalyst; in-situ production of **polyether** monol and **polyol** mixture useful for viscoelastic polyurethane foams)
- IT 25322-69-4DP, Polypropylene glycol, monol derivs. 25791-96-2P, Polypropylene glycol glycerin ether

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(in-situ production of **polyether** monol and **polyol** mixture useful for viscoelastic polyurethane foams)

- IT 57-55-6DP, Propylene glycol, polymer with polyoxypropylene monol and triol, and TDI 9003-11-6DP, Ethylene oxide-propylene oxide copolymer, monol derivs., reaction product with polyether triol, propylene glycol and TDI 9082-00-2DP, Ethylene oxide-propylene oxide copolymer glycerin ether, polymer with polyether monol, propylene glycol and TDI 25322-69-4DP, Polypropylene glycol, monol derivs., reaction product with polyoxypropylene triol, propylene glycol and TDI 25791-96-2DP, Polypropylene glycol glycerin ether, polymer with polyoxypropylene monol, propylene glycol and TDI 26471-62-5DP, TDI, polymer with polyoxypropylene monol and triol, and propylene glycol

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(manufacture of viscoelastic polyurethane foams using in-situ prepared **polyether** monol and **polyol** mixture)

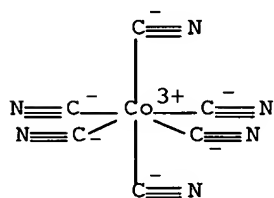
- IT 14049-79-7D, Zinc hexacyanocobaltate, tert-butanol complex

RL: CAT (Catalyst use); USES (Uses)

(etherification catalyst; in-situ production of **polyether** monol and **polyol** mixture useful for viscoelastic polyurethane foams)

- RN 14049-79-7 HCAPLUS

- CN Cobaltate(3-), hexakis(cyano-kC)-, zinc (2:3), (OC-6-11)- (9CI) (CA INDEX NAME)



3/2 Zn²⁺

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD..ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 25 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:669446 HCAPLUS Full-text

DOCUMENT NUMBER: 137:201744

TITLE: Improved method for preparation of **polyether polyols** with double metal cyanide catalysts

INVENTOR(S): Hofmann, Joerg; Ehlers, Stephan; Klinksiek, Bernd; Kleszczewski, Bert; Steinlein, Christian; Obendorf, Lars; Pielartzik, Harald

PATENT ASSIGNEE(S): Bayer AG, Germany

SOURCE: Ger. Offen., 8 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10108485	A1	20020905	DE 2001-10108485	20010222
CA 2438645	AA	20020906	CA 2002-2438645	20020211
WO 2002068502	A1	20020906	WO 2002-EP1397	20020211
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1366106	A1	20031203	EP 2002-704707	20020211
EP 1366106	B1	20041117		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
CN 1501953	A	20040602	CN 2002-805434	20020211
BR 2002007512	A	20040727	BR 2002-7512	20020211
AT 282655	E	20041215	AT 2002-704707	20020211
JP 2005506392	T2	20050303	JP 2002-568009	20020211
PT 1366106	T	20050331	PT 2002-704707	20020211
ES 2233798	T3	20050616	ES 2002-2704707	20020211
US 2002198278	A1	20021226	US 2002-77855	20020219
US 6670406	B2	20031230		
TW 232227	B1	20050511	TW 2002-91102854	20020220
HK 1066231	A1	20051111	HK 2004-109160	20041119
PRIORITY APPLN. INFO.:				
			DE 2001-10108485	A 20010222
			WO 2002-EP1397	W 20020211
AB	Procedure for preparation of polyether polyols by polyaddn. of alkylene oxides to active H-containing starting materials in the presence of double metal cyanide catalysts (DMC), whereby the reaction mixture is 1-1000 times led through a zone of energy $d. \geq 5 + 105 \text{ J/m}^3$ and has a residence time $\geq 10^{-6} \text{ s}$. The polyether polyols prepared by a jet mixer have improved foaming properties and may be used for preparation of flexible polyurethane foams. Thus, a trifunctional polyol of mol. weight 3,000 g/mol was prepared from glycerol and propylene oxide at 130° using a DMC catalyst and by treatment with a jet mixer. Then, to a mixture of 100 g polyol, 6 g H ₂ O, 0.60 g silicone stabilizer (Tegostab BF 2370), 0.15 g Desmorapid SO, and 0.10 g bis(dimethylamino)ethyl ether (as catalysts), 73.40 g Desmodur T80 was admixed under stirring. The foaming mixture was 30 min stored in a drying oven at 100°. The foam was of fine, regular cell structure without any cracks and collapses.			
IC	ICM C08G065-10			
	ICS C08G065-26; C08G018-48			
CC	35-7 (Chemistry of Synthetic High Polymers)			
ST	polyether polyol double metal cyanide catalyst prepn; polyurethane flexible foam polyether polyol DMC prepn; glycerol propylene oxide polyol Desmodur T80 polyurethane foam; sorbitol propylene oxide polyol Desmodur T80 hydrazine polyurethane foam			
IT	Polymerization catalysts (double metal cyanide; improved method for preparation of polyether polyols with double metal cyanide catalysts)			
IT	Plastic foams RL: TEM (Technical or engineered material use); USES (Uses) (flexible; improved method for preparation of polyether polyols with double metal cyanide catalysts)			
IT	Polyoxyalkylenes, preparation RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or			

- engineered material use); PREP (Preparation); USES (Uses)
 (improved method for preparation of **polyether polyols**
 with double metal cyanide catalysts)
- IT Mixers (processing apparatus)
 (jet; improved method for preparation of **polyether polyols**
 with double metal cyanide catalysts)
- IT **Polyurethanes, preparation**
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material
 use); PREP (Preparation); USES (Uses)
 (polyoxyalkylene-, flexible foams; improved method for preparation of
polyether polyols with double metal cyanide
 catalysts)
- IT 301-10-0, Desmorapid SO 3033-62-3, Bis(dimethylamino)ethyl ether
 RL: CAT (Catalyst use); USES (Uses)
 (for polyurethane preparation; improved method for preparation of
polyether polyols with double metal cyanide
 catalysts)
- IT 52625-13-5P, Propylene oxide-sorbitol copolymer **151274-15-6P**,
 Poly[oxy(methyl-1,2-ethanediyl)], $\alpha, \alpha', \alpha''$ -1,2,3-
 propanetriyltris[ω -hydroxy-polymer with Desmodur T80
452962-84-4P
 RL: PRP (Properties); **SPN (Synthetic preparation)**; TEM
 (Technical or engineered material use); **PREP (Preparation)**; USES
 (Uses)
 (improved method for preparation of **polyether polyols**
 with double metal cyanide catalysts)
- IT 25791-96-2P, Glycerol-propylene oxide copolymer
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material
 use); PREP (Preparation); USES (Uses)
 (improved method for preparation of **polyether polyols**
 with double metal cyanide catalysts)
- IT 75-65-0, tert.-Butanol, uses
 RL: CAT (Catalyst use); USES (Uses)
 (ligand of DMC catalyst, for polyol preparation; improved method for
 preparation
 of **polyether polyols** with double metal cyanide
 catalysts)
- IT **14049-79-7**, Zinchexacyanocobaltate
 RL: **CAT (Catalyst use)**; USES (Uses)
 (with tert.-butanol ligands, for polyol preparation; improved method for
 preparation of **polyether polyols** with double metal
 cyanide catalysts)
- IT **151274-15-6P**, Poly[oxy(methyl-1,2-ethanediyl)],
 $\alpha, \alpha', \alpha''$ -1,2,3-propanetriyltris[ω -hydroxy-polymer
 with Desmodur T80 **452962-84-4P**
 RL: PRP (Properties); **SPN (Synthetic preparation)**; TEM
 (Technical or engineered material use); **PREP (Preparation)**; USES
 (Uses)
 (improved method for preparation of **polyether polyols**
 with double metal cyanide catalysts)
- RN 151274-15-6 HCAPLUS
- CN Poly[oxy(methyl-1,2-ethanediyl)], $\alpha, \alpha', \alpha''$ -1,2,3-
 propanetriyltris[ω -hydroxy-, polymer with Desmodur T 80 (9CI) (CA
 INDEX NAME)

CM 1

CRN 55887-98-4

CMF Unspecified

CCI MAN

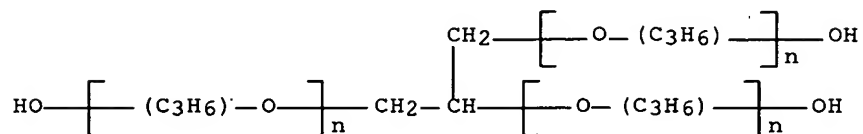
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CM 2

CRN 25791-96-2

CMF (C3 H6 O)n (C3 H6 O)n (C3 H6 O)n C3 H8 O3

CCI IDS, PMS



RN 452962-84-4 HCAPLUS

CN Hydrazine, polymer with Desmodur T 80 and α -hydro- ω -hydroxy[poly[oxy(methyl-1,2-ethanediyl)]] ether with D-glucitol (6:1)
(9CI) (CA INDEX NAME)

CM 1

CRN 55887-98-4

CMF Unspecified

CCI MAN

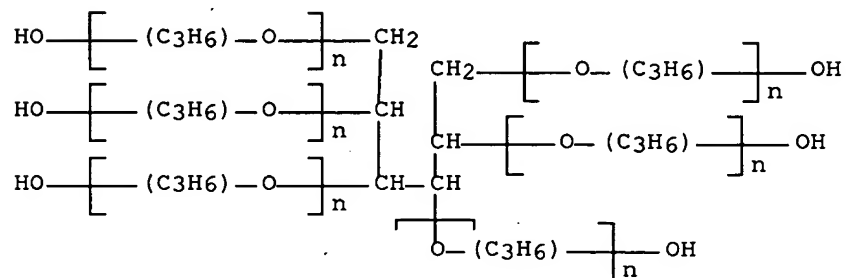
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 52625-13-5

CMF (C3 H6 O)n (C3 H6 O)n (C3 H6 O)n (C3 H6 O)n (C3 H6 O)n (C3 H6 O)n C6
H14 O6

CCI IDS, PMS



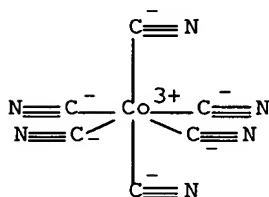
CM 3

CRN 302-01-2

CMF H4 N2

H₂N—NH₂

IT **14049-79-7**, Zinchexacyanocobaltate
 RL: **CAT (Catalyst use)**; USES (Uses)
 (with tert.-butanol ligands, for polyol preparation; improved method for preparation of **polyether polyols** with double metal cyanide catalysts)
 RN 14049-79-7 HCAPLUS
 CN Cobaltate(3-), hexakis(cyano-κC)-, zinc (2:3), (OC-6-11)- (9CI) (CA INDEX NAME)

● 3/2 Zn²⁺

L38 ANSWER 26 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2002:669445 HCAPLUS Full-text
 DOCUMENT NUMBER: 137:201743
 TITLE: Improved method for preparation of **polyether polyols** using double metal cyanide catalysts
 INVENTOR(S): Hofmann, Joerg; Ehlers, Stephan; Klinksiek, Bernd; Obendorf, Lars; Steinlein, Christian; Kleszczewski, Bert
 PATENT ASSIGNEE(S): Bayer AG, Germany
 SOURCE: Ger. Offen., 8 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10108484	A1	20020905	DE 2001-10108484	20010222
CA 2438647	AA	20020906	CA 2002-2438647	20020211
WO 2002068503	A1	20020906	WO 2002-EP1398	20020211

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1368407 A1 20031210 EP 2002-714155 20020211
 EP 1368407 B1 20050518

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

BR 2002007766 A 20040427 BR 2002-7766 20020211
 CN 1505650 A 20040616 CN 2002-805435 20020211
 JP 2005506393 T2 20050303 JP 2002-568010 20020211
 AT 295861 E 20050615 AT 2002-714155 20020211
 PT 1368407 T 20050930 PT 2002-714155 20020211
 ES 2242003 T3 20051101 ES 2002-2714155 20020211
 US 2002169229 A1 20021114 US 2002-78951 20020219
 US 6776925 B2 20040817
 TW 232228 B1 20050511 TW 2002-91102855 20020220
 HK 1066819 A1 20060407 HK 2004-109847 20041213

PRIORITY APPLN. INFO.: DE 2001-10108484 A 20010222
 WO 2002-EP1398 W 20020211

AB Procedure for preparation of **polyether polyols** by polyaddn. of alkylene oxides to active H-containing starting materials in the presence of double metal cyanide catalysts (DMC), whereby the reaction mixture is led through a zone of energy d. ≥ 105 J/m³ and residence time $\geq 10^{-6}$ s. The **polyether polyols** have improved foaming properties and may be used for preparation of polyurethane foams. Thus, to a mixture of 100 g polyol prepared from glycerol and propylene oxide using a DMC catalyst, 6 g H₂O, 0.60 g silicone stabilizer (Tegostab BF 2370), 0.10 g bis(dimethylamino)ethylether, and 0.15 g Desmorapid SO, 73.40 g Desmodur T80 was admixed under stirring. The foaming mixture was 30 min stored in a drying oven at 100°. The foam was of fine, regular cell structure without any cracks and collapses.

IC ICM C08G065-10
 ICS C08G018-48

CC 35-7 (Chemistry of Synthetic High Polymers)

ST **polyether polyol** double metal cyanide catalyst prepn;
 polyurethane soft foam **polyether polyol** DMC prepn;
 glycerol propylene oxide polyol Desmodur T80 polyurethane foam

IT Polymerization catalysts
 (double metal cyanide; improved method for preparation of **polyether polyols** using double metal cyanide catalysts)

IT Polyoxyalkylenes, preparation
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (improved method for preparation of **polyether polyols** using double metal cyanide catalysts)

IT Plastic foams
 RL: TEM (Technical or engineered material use); USES (Uses)
 (improved method for preparation of **polyether polyols** using double metal cyanide catalysts)

IT **Polyurethanes, preparation**
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxyalkylene-, soft foams; improved method for preparation of **polyether polyols** using double metal cyanide catalysts)

IT 301-10-0, Desmorapid SO 3033-62-3, Bis(dimethylamino)ethylether
 RL: CAT (Catalyst use); USES (Uses)
 (for polyurethane preparation; improved method for preparation of **polyether polyols** using double metal cyanide catalysts)

IT **151274-15-6P**, Poly[oxy(methyl-1,2-ethanediyl)],

$\alpha, \alpha', \alpha''$ -1,2,3-propanetriyltris[ω -hydroxy-polymer
with Desmodur T80

RL: PRP (Properties); **SPN (Synthetic preparation)**; TEM
(Technical or engineered material use); **PREP (Preparation)**; USES
(Uses)

(improved method for preparation of **polyether polyols**
using double metal cyanide catalysts)

IT 25791-96-2P, Glycerol-propylene oxide copolymer

RL: SPN (Synthetic preparation); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)

(improved method for preparation of **polyether polyols**
using double metal cyanide catalysts)

IT 75-65-0, tert.-Butanol, uses

RL: CAT (Catalyst use); USES (Uses)

(ligand of DMC catalyst, for polyol preparation; improved method for
preparation

of **polyether polyols** using double metal cyanide
catalysts)

IT 14049-79-7, Zinchexacyanocobaltate

RL: **CAT (Catalyst use)**; USES (Uses)

(with tert.-butanol ligands, for polyol preparation; improved method for
preparation of **polyether polyols** using double metal
cyanide catalysts)

IT 151274-15-6P, Poly[oxy(methyl-1,2-ethanediyl)],

$\alpha, \alpha', \alpha''$ -1,2,3-propanetriyltris[ω -hydroxy-polymer
with Desmodur T80

RL: PRP (Properties); **SPN (Synthetic preparation)**; TEM
(Technical or engineered material use); **PREP (Preparation)**; USES
(Uses)

(improved method for preparation of **polyether polyols**
using double metal cyanide catalysts)

RN 151274-15-6 HCAPLUS

CN Poly[oxy(methyl-1,2-ethanediyl)], $\alpha, \alpha', \alpha''$ -1,2,3-
propanetriyltris[ω -hydroxy-, polymer with Desmodur T 80 (9CI) (CA
INDEX NAME)

CM 1

CRN 55887-98-4

CMF Unspecified

CCI MAN

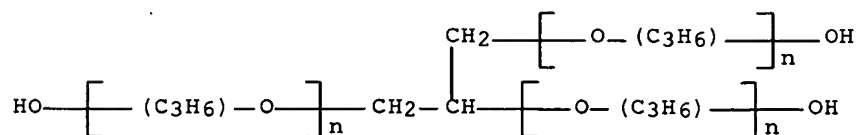
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CM 2

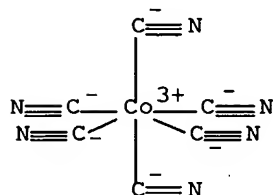
CRN 25791-96-2

CMF (C3 H6 O)_n (C3 H6 O)_n (C3 H6 O)_n C3 H8 O3

CCI IDS, PMS



IT 14049-79-7, Zinchexacyanocobaltate
 RL: **CAT (Catalyst use)**; USES (Uses)
 (with tert.-butanol ligands, for polyol preparation; improved method for
 preparation of **polyether polyols** using double metal
 cyanide catalysts)
 RN 14049-79-7 HCAPLUS
 CN Cobaltate(3-), hexakis(cyano-κC)-, zinc (2:3), (OC-6-11)- (9CI) (CA
 INDEX NAME)



● 3/2 Zn²⁺

L38 ANSWER 27 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2001:165740 HCAPLUS Full-text
 DOCUMENT NUMBER: 134:223442
 TITLE: **Polyoxyalkylene polyols** and their
 manufacture and use for production of polyurethanes
 INVENTOR(S): Harre, Kathrin; Lorenz, Reinhard; Grosch, Georg
 Heinrich; Erbes, Joerg; Junge, Dieter; Bauer, Stephan;
 Baum, Eva; Ostrowski, Thomas
 PATENT ASSIGNEE(S): BASF A.-G., Germany
 SOURCE: Ger. Offen., 10 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19941242	A1	20010308	DE 1999-19941242	19990831
CA 2382613	AA	20010308	CA 2000-2382613	20000823
WO 2001016209	A1	20010308	WO 2000-EP8218	20000823
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
BR 2000013530	A	20020430	BR 2000-13530	20000823
EP 1208132	A1	20020529	EP 2000-953196	20000823
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				

IE, SI, LT, LV, FI, RO, MK, CY, AL
 JP 2003508563 T2 20030304 JP 2001-520762 20000823
 PRIORITY APPLN. INFO.: DE 1999-19941242 A 19990831
 WO 2000-EP8218 W 20000823

AB Polyols are manufactured by polymerization of ethylene oxide and propylene oxide in the presence of H-functional compds. and multimetal cyanides, with the chains being terminated with blocks formed from C₂3 alkylene oxides. Termination of the polyols in this manner provided precursors for the manufacture of polyurethanes with improved mech. properties.

IC ICM C08G065-28
 ICS C07B041-04; C07C041-03; C08G018-10; C08G018-28

CC 37-3 (Plastics Manufacture and Processing)

ST block **polyoxyalkylene polyol** manuf multimetal cyanide catalyst; polyurethane mech property enhanced block **polyoxyalkylene polyol** precursor

IT Polyoxyalkylenes, preparation
 RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
 (block; block **polyoxyalkylene polyols** with terminal blocks prepared from C₂3 alkylene oxides for manufacture of polyurethanes with improved mech. properties)

IT Cyanides (inorganic), preparation
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
 (multimetal, polymerization catalysts; block **polyoxyalkylene polyols** with terminal blocks prepared from C₂3 alkylene oxides for manufacture of polyurethanes with improved mech. properties)

IT **Polyurethanes, preparation**
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
 (polyoxyalkylene-; block **polyoxyalkylene polyols** with terminal blocks prepared from C₂3 alkylene oxides for manufacture of polyurethanes with improved mech. properties)

IT Polymerization catalysts
 (ring-opening, multimetal cyanides; block **polyoxyalkylene polyols** with terminal blocks prepared from C₂3 alkylene oxides for manufacture of polyurethanes with improved mech. properties)

IT 107498-00-0P, Ethylene oxide-propylene oxide block copolymer glycerol ether
 RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
 (block **polyoxyalkylene polyols** with terminal blocks prepared from C₂3 alkylene oxides for manufacture of polyurethanes with improved mech. properties)

IT **112529-09-6P**, Ethylene oxide-propylene oxide block copolymer glycerol ether-TDI copolymer 329180-87-2P, Ethylene oxide-propylene oxide block copolymer glycerol ether-Lupranate T80A copolymer
 RL: **IMF (Industrial manufacture)**; PRP (Properties); **PREP (Preparation)**
 (block **polyoxyalkylene polyols** with terminal blocks prepared from C₂3 alkylene oxides for manufacture of polyurethanes with improved mech. properties)

IT **7440-48-4D**, Cobalt, mixed metal cyanides with zinc, uses **7440-66-6D**, Zinc, mixed metal cyanides with cobalt, uses
 RL: **CAT (Catalyst use)**; **USES (Uses)**
 (polymerization catalysts; block **polyoxyalkylene polyols** with terminal blocks prepared from C₂3 alkylene oxides for manufacture of polyurethanes with improved mech. properties)

IT **112529-09-6P**, Ethylene oxide-propylene oxide block copolymer glycerol ether-TDI copolymer
 RL: **IMF (Industrial manufacture)**; PRP (Properties); **PREP**

(Preparation)(block **polyoxyalkylene polyols** with terminal blocksprepared from C_{≥3} alkylene oxides for manufacture of polyurethanes with improved mech. properties)

RN 112529-09-6 HCAPLUS

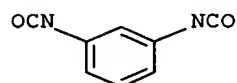
CN Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), block, polymer with 1,3-diisocyanatomethylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



D1-Me

CM 2

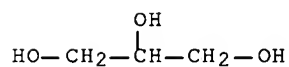
CRN 107498-00-0

CMF C3 H8 O3 . 3 (C3 H6 O . C2 H4 O) x

CM 3

CRN 56-81-5

CMF C3 H8 O3



CM 4

CRN 106392-12-5

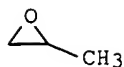
CMF (C3 H6 O . C2 H4 O) x

CCI PMS

CM 5

CRN 75-56-9

CMF C3 H6 O



CM 6

CRN 75-21-8

CMF C2 H4 O



IT **7440-48-4D**, Cobalt, mixed metal cyanides with zinc, uses
7440-66-6D, Zinc, mixed metal cyanides with cobalt, uses
 RL: **CAT (Catalyst use)**; USES (Uses)
 (polymerization catalysts; block **polyoxyalkylene polyols**
 with terminal blocks prepared from C_≥3 alkylene oxides for manufacture
 of polyurethanes with improved mech. properties)
 RN 7440-48-4 HCAPLUS
 CN Cobalt (8CI, 9CI) (CA INDEX NAME)

Co

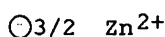
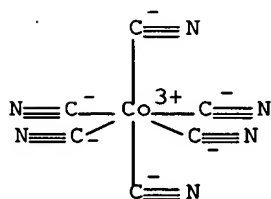
RN 7440-66-6 HCAPLUS
 CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

L38 ANSWER 28 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2000:911325 HCAPLUS Full-text
 DOCUMENT NUMBER: 134:57523
 TITLE: Resilient polyurethane foams produced from
polyether polyols
 INVENTOR(S): Hofmann, Jorg; Gupta, Pramod; Dietrich, Manfred; Rabe,
 Hansjorgen; Gronen, Jurgen; Ooms, Pieter
 PATENT ASSIGNEE(S): Bayer Aktiengesellschaft, Germany
 SOURCE: PCT Int. Appl., 39 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000078837	A1	20001228	WO 2000-EP5167	20000606
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 19928156	A1	20001228	DE 1999-19928156	19990619
CA 2375285	AA	20001228	CA 2000-2375285	20000606
BR 2000011777	A	20020319	BR 2000-11777	20000606
EP 1194468	A1	20020410	EP 2000-940318	20000606
EP 1194468	B1	20040915		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2003503516	T2	20030128	JP 2001-505593	20000606
AU 768450	B2	20031211	AU 2000-55295	20000606
AT 276299	E	20041015	AT 2000-940318	20000606
PT 1194468	T	20041231	PT 2000-940318	20000606
ES 2228545	T3	20050416	ES 2000-940318	20000606
TW 591045	B	20040611	TW 2000-89111542	20000614
ZA 2001009264	A	20021111	ZA 2001-9264	20011109
US 6858655	B1	20050222	US 2001-18332	20011213
NO 2001006196	A	20011218	NO 2001-6196	20011218
HK 1047598	A1	20050603	HK 2002-109209	20021219
PRIORITY APPLN. INFO.:			DE 1999-19928156	A 19990619
			WO 2000-EP5167	W 20000606
AB	Resilient polyurethane foams are prepared from polyisocyanates and polyether polyols (number-average mol. weight 700-50,000) comprising ≥1 ethylene oxide-propylene oxide mixed block and obtained in the presence of double metal cyanide (DMC) catalysts. Thus, a DMC catalyst was prepared by reaction of 91.5 mmol ZnCl ₂ with 12 mmol K ₃ Co(CN) ₆ in the presence of tert-BuOH and polypropylene glycol (average mol. weight 2000). A trimethylolpropane-initiated polyoxypropylene triol (872.7 g, OH number 380 mg KOH/g) was mixed with 0.3 g of the DMC catalyst and alkoxyated with a mixture of 4614.6 g propylene oxide and 512.7 g ethylene oxide to give a polyether polyol (I) with OH number 58.1 mg KOH/g and double bond content 7 mmol/kg. Polymerization of 100 parts I with 51.2 parts Desmodur T 80 in the presence of 4 parts H ₂ O gave an open-cell foam with regular cell structure.			
IC	ICM C08G018-48			
CC	37-6 (Plastics Manufacture and Processing)			
IT	Polyoxyalkylenes, uses			
	RL: CAT (Catalyst use); USES (Uses)			
	(DMC alkoxylation catalyst containing; resilient polyurethane foams produced from polyether polyols)			
IT	Polyurethanes, preparation			
	RL: IMF (Industrial manufacture); PREP (Preparation)			
	(polyoxyalkylene-; resilient polyurethane foams produced from polyether polyols)			
IT	Plastic foams			
	RL: IMF (Industrial manufacture); PREP (Preparation)			
	(resilient polyurethane foams produced from polyether polyols)			
IT	Polymerization catalysts			
	(ring-opening, double metal cyanide; resilient polyurethane foams)			

- produced from **polyether polyols**)
- IT 75-65-0, tert-Butyl alcohol, uses 25322-69-4, Polypropylene glycol
 RL: CAT (Catalyst use); USES (Uses)
 (DMC alkoxylation catalyst containing; resilient polyurethane foams produced from **polyether polyols**)
- IT 14049-79-7, Zinc hexacyanocobaltate
 RL: **CAT (Catalyst use)**; USES (Uses)
 (resilient polyurethane foams produced from **polyether polyols**)
- IT 112529-09-6P 132878-84-3P, (Ethylene oxide-propylene oxide block copolymer trimethylolpropane ether)-TDI copolymer 314065-15-1P, Desmodur T 80-(ethylene oxide-propylene oxide block copolymer trimethylolpropane ether) copolymer 314065-16-2P, Desmodur T 65-(ethylene oxide-propylene oxide block copolymer trimethylolpropane ether) copolymer 314065-17-3P, Desmodur T 80-Desmophen 3900I-(ethylene oxide-propylene oxide block copolymer trimethylolpropane ether) copolymer 314065-18-4P, Desmophen 3900I-(ethylene oxide-propylene oxide block copolymer trimethylolpropane ether)-TDI copolymer 314065-19-5P, Desmophen VP PU 10WF22-(ethylene oxide-propylene oxide block copolymer glycerol ether)-Desmodur VP-PU 3230 copolymer 314065-20-8P, Desmodur T 80-(ethylene oxide-propylene oxide block copolymer glycerol ether) copolymer 314065-21-9P, Desmodur T 80-Desmophen 3426L-(ethylene oxide-propylene oxide block copolymer glycerol ether) copolymer 314065-22-0P, Desmophen 3426L-(ethylene oxide-propylene oxide block copolymer glycerol ether)-TDI copolymer
 RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
 (resilient polyurethane foams produced from **polyether polyols**)
- IT 107120-02-5P 107498-00-0P, Ethylene oxide-propylene oxide block copolymer glycerol ether
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (resilient polyurethane foams produced from **polyether polyols**)
- IT 14049-79-7, Zinc hexacyanocobaltate
 RL: **CAT (Catalyst use)**; USES (Uses)
 (resilient polyurethane foams produced from **polyether polyols**)
- RN 14049-79-7 HCAPLUS
- CN Cobaltate(3-), hexakis(cyano-κC)-, zinc (2:3), (OC-6-11)-(9CI) (CA INDEX NAME)



- IT 112529-09-6P 132878-84-3P, (Ethylene oxide-propylene

oxide block copolymer trimethylolpropane ether)-TDI copolymer
314065-15-1P, Desmodur T 80-(ethylene oxide-propylene oxide block
 copolymer trimethylolpropane ether) copolymer **314065-17-3P**,
 Desmodur T 80-Desmophen 3900I-(ethylene oxide-propylene oxide block
 copolymer trimethylolpropane ether) copolymer **314065-18-4P**,
 Desmophen 3900I-(ethylene oxide-propylene oxide block copolymer
 trimethylolpropane ether)-TDI copolymer **314065-20-8P**, Desmodur T
 80-(ethylene oxide-propylene oxide block copolymer glycerol ether)
 copolymer **314065-21-9P**, Desmodur T 80-Desmophen 3426L-(ethylene
 oxide-propylene oxide block copolymer glycerol ether) copolymer
314065-22-0P, Desmophen 3426L-(ethylene oxide-propylene oxide
 block copolymer glycerol ether)-TDI copolymer

RL: **IMF (Industrial manufacture); PREP (Preparation)**

(resilient polyurethane foams produced from **polyether**
polyols)

RN 112529-09-6 HCAPLUS

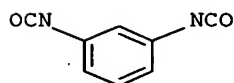
CN Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol
 (3:1), block, polymer with 1,3-diisocyanatomethylbenzene (9CI) (CA INDEX
 NAME)

CM 1

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



D1-Me

CM 2

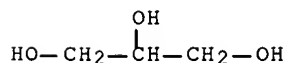
CRN 107498-00-0

CMF C3 H8 O3 . 3 (C3 H6 O . C2 H4 O) x

CM 3

CRN 56-81-5

CMF C3 H8 O3



CM 4

CRN 106392-12-5

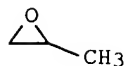
CMF (C3 H6 O . C2 H4 O) x

CCI PMS

CM 5

CRN 75-56-9

CMF C3 H6 O



CM 6

CRN 75-21-8

CMF C2 H4 O



RN 132878-84-3 HCAPLUS

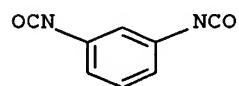
CN Oxirane, methyl-, polymer with oxirane, ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1), block, polymer with 1,3-diisocyanatomethylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



D1—Me

CM 2

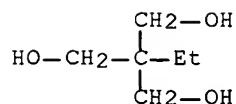
CRN 107120-02-5

CMF C6 H14 O3 . 3 (C3 H6 O . C2 H4 O) x

CM 3

CRN 77-99-6

CMF C6 H14 O3



CM 4

CRN 106392-12-5

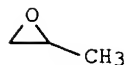
CMF (C3 H6 O . C2 H4 O)x

CCI PMS

CM 5

CRN 75-56-9

CMF C3 H6 O



CM 6

CRN 75-21-8

CMF C2 H4 O



RN 314065-15-1 HCAPLUS

CN Oxirane, methyl-, polymer with oxirane, ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1), block, polymer with Desmodur T 80 (9CI) (CA INDEX NAME)

CM 1

CRN 55887-98-4

CMF Unspecified

CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

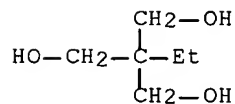
CRN 107120-02-5

CMF C6 H14 O3 . 3 (C3 H6 O . C2 H4 O)x

CM 3

CRN 77-99-6

CMF C6 H14 O3



CM 4

CRN 106392-12-5

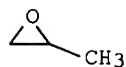
CMF (C3 H6 O . C2 H4 O)x

CCI PMS

CM 5

CRN 75-56-9

CMF C3 H6 O



CM 6

CRN 75-21-8

CMF C2 H4 O



RN 314065-17-3 HCAPLUS

CN Oxirane, methyl-, polymer with oxirane, ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1), block, polymer with Desmodur T 80 and Desmophen 3900I (9CI) (CA INDEX NAME)

CM 1

CRN 314059-10-4

CMF Unspecified

CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 55887-98-4
CMF Unspecified
CCI MAN

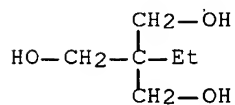
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

CRN 107120-02-5
CMF C6 H14 O3 . 3 (C3 H6 O . C2 H4 O)x

CM 4

CRN 77-99-6
CMF C6 H14 O3

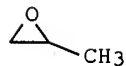


CM 5

CRN 106392-12-5
CMF (C3 H6 O . C2 H4 O)x
CCI PMS

CM 6

CRN 75-56-9
CMF C3 H6 O



CM 7

CRN 75-21-8
CMF C2 H4 O



RN 314065-18-4 HCAPLUS

CN Oxirane, methyl-, polymer with oxirane, ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1), block, polymer with Desmophen 3900I and 1,3-diisocyanatomethylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 314059-10-4

CMF Unspecified

CCI PMS, MAN

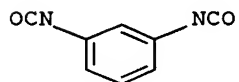
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



D1-Me

CM 3

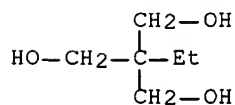
CRN 107120-02-5

CMF C6 H14 O3 . 3 (C3 H6 O . C2 H4 O) x

CM 4

CRN 77-99-6

CMF C6 H14 O3



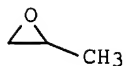
CM 5

CRN 106392-12-5

CMF (C3 H6 O . C2 H4 O) x
CCI PMS

CM 6

CRN 75-56-9
CMF C3 H6 O



CM 7

CRN 75-21-8
CMF C2 H4 O



RN 314065-20-8 HCAPLUS
CN Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), block, polymer with Desmodur T 80 (9CI) (CA INDEX NAME)

CM 1

CRN 55887-98-4
CMF Unspecified
CCI MAN

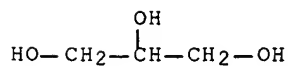
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 107498-00-0
CMF C3 H8 O3 . 3 (C3 H6 O . C2 H4 O) x

CM 3

CRN 56-81-5
CMF C3 H8 O3



CM 4

CRN 106392-12-5

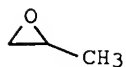
CMF (C3 H6 O . C2 H4 O)x

CCI PMS

CM 5

CRN 75-56-9

CMF C3 H6 O



CM 6

CRN 75-21-8

CMF C2 H4 O



RN 314065-21-9 HCAPLUS

CN Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), block, polymer with Desmodur T 80 and Desmophen 3426L (9CI) (CA INDEX NAME)

CM 1

CRN 314064-68-1

CMF Unspecified

CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 55887-98-4

CMF Unspecified

CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

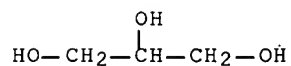
CM 3

CRN 107498-00-0

CMF C3 H8 O3 . 3 (C3 H6 O . C2 H4 O)x

CM 4

CRN 56-81-5
CMF C3 H8 O3

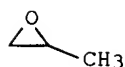


CM 5

CRN 106392-12-5
CMF (C3 H6 O . C2 H4 O) x
CCI PMS

CM 6

CRN 75-56-9
CMF C3 H6 O



CM 7

CRN 75-21-8
CMF C2 H4 O



RN 314065-22-0 HCAPLUS
CN Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), block, polymer with Desmophen 3426L and 1,3-diisocyanatomethylbenzene (9CI) (CA INDEX NAME)

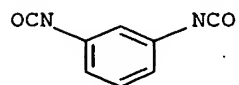
CM 1

CRN 314064-68-1.
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 26471-62-5
 CMF C9 H6 N2 O2
 CCI IDS



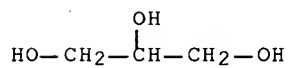
D1-Me

CM 3

CRN 107498-00-0
 CMF C3 H8 O3 . 3 (C3 H6 O . C2 H4 O) x

CM 4

CRN 56-81-5
 CMF C3 H8 O3

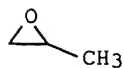


CM 5

CRN 106392-12-5
 CMF (C3 H6 O . C2 H4 O) x
 CCI PMS

CM 6

CRN 75-56-9
 CMF C3 H6 O



CM 7

CRN 75-21-8
 CMF C2 H4 O



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 29 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2000:756764 HCAPLUS Full-text
 DOCUMENT NUMBER: 133:322572
 TITLE: Production of polyoxyalkylene-polyurethanes
 INVENTOR(S): Lorenz, Reinhard; Bauer, Stephan; Junge, Dieter; Baum, Eva; Harre, Kathrin; Erbes, Jorg; Ostrowski, Thomas; Grosch, Georg Heinrich
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany
 SOURCE: PCT Int. Appl., 23 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000063270	A1	20001026	WO 2000-EP3229	20000411
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 19917897	A1	20001026	DE 1999-19917897	19990420
CA 2370360	AA	20001026	CA 2000-2370360	20000411
EP 1175454	A1	20020130	EP 2000-926868	20000411
EP 1175454	B1	20021113		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
AT 227750	E	20021115	AT 2000-926868	20000411
JP 2002542353	T2	20021210	JP 2000-612355	20000411
ES 2186649	T3	20030516	ES 2000-926868	20000411
US 6906110	B1	20050614	US 2001-19998	20000411
PRIORITY APPLN. INFO.:			DE 1999-19917897	A 19990420
			WO 2000-EP3229	W 20000411
AB	In the title process, which does not cause problems in the preparation of polyurethane foams, polyisocyanates are polymerized with polyether polyols prepared by the polymerization of epoxides in the presence of polymetal cyanide catalysts. Stirring oligopropoxylated glycerol (OH number 370) 605, Zn hexacyanocobaltate 2.14, ethylene oxide (I) 20, and propylene oxide (II) 130 g at 125° until the pressure dropped, adding 565.5 g I and 3690 g II, and stirring gave a polyol with OH number 48, viscosity 632 mPa-s at 25°, Zn content 23 ppm, and Co content 11 ppm. Mixing this polyol 1000, TDI 487.46, H2O 45, and catalysts and stabilizers 15.4 g gave a foam with start time 11 s, rise time 80 s, and rise height 285 mm.			
IC	ICM C08G018-48 ICS C08K003-00; C08G018-24			
CC	37-3 (Plastics Manufacture and Processing)			

Section cross-reference(s): 67

IT **Polyurethanes, preparation**

RL: IMF (Industrial manufacture); PREP (Preparation)

(polyoxyalkylene-, cellular; production of polyoxyalkylene-polyurethanes)

IT 7429-90-5DP, Aluminum, cyanometallates, preparation 7439-93-2DP, Lithium, cyanometallates, preparation 7439-95-4DP, Magnesium, cyanometallates, preparation 7440-09-7DP, Potassium, cyanometallates, preparation 7440-17-7DP, Rubidium, cyanometallates, preparation 7440-23-5DP, Sodium, cyanometallates, preparation 7440-24-6DP, Strontium, cyanometallates, preparation 7440-39-3DP, Barium, cyanometallates, preparation 7440-41-7DP, Beryllium, cyanometallates, preparation 7440-42-8DP, Boron, cyanometallates, preparation 7440-46-2DP, Cesium, cyanometallates, preparation 7440-70-2DP, Calcium, cyanometallates, preparation **14049-79-7P**, Zinc hexacyanocobaltate

RL: **CAT (Catalyst use)**; IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(catalysts for polymerization of epoxides to polyols)

IT 25791-96-2P, Glycerol polypropylene glycol ether (1:3)

RL: IMF (Industrial manufacture); PREP (Preparation)

(catalysts for production of **polyoxyalkylene polyols**)IT **39279-01-1P**RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**

(cellular; production of polyoxyalkylene-polyurethanes)

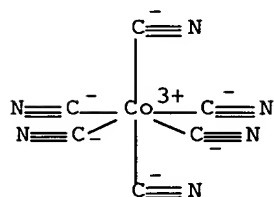
IT **14049-79-7P**, Zinc hexacyanocobaltate

RL: **CAT (Catalyst use)**; IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(catalysts for polymerization of epoxides to polyols)

RN 14049-79-7 HCAPLUS

CN Cobaltate(3-), hexakis(cyano-κC)-, zinc (2:3), (OC-6-11)-(9CI) (CA INDEX NAME)



⊙3/2 Zn²⁺

IT **39279-01-1P**RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**

(cellular; production of polyoxyalkylene-polyurethanes)

RN 39279-01-1 HCAPLUS

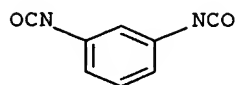
CN Poly[oxy(methyl-1,2-ethanediyl)], α,α',α''-1,2,3-propanetriyltris[ω-hydroxy-, polymer with 1,3-diisocyanatomethylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



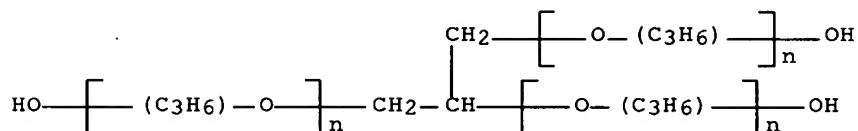
D1-Me

CM 2

CRN 25791-96-2

CMF (C3 H6 O)_n (C3 H6 O)_n (C3 H6 O)_n C3 H8 O₃

CCI IDS, PMS



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 30 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:612079 HCAPLUS Full-text

DOCUMENT NUMBER: 133:194052

TITLE: Moisture-curable urethane prepolymer compositions with low viscosity

INVENTOR(S): Tada, Masako; Kashiwame, Kyoteru; Tsuruoka, Kaoru

PATENT ASSIGNEE(S): Asahi Glass Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

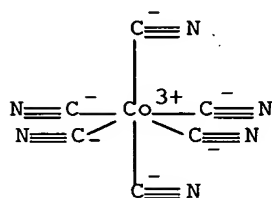
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000239338	A2	20000905	JP 1999-41999	19990219
PRIORITY APPLN. INFO.:			JP 1999-41999	19990219

AB Title comps. comprise (A) SiX₃-containing polymers having hydrolyzable silyl groups SiXaR₁₃-a [R₁ = C₁-20 (un)substituted monovalent organic group; X = OH, hydrolyzable group; a = 1, 2, 3], (B) NCO-terminated urethane prepolymers prepared from polyols and polyisocyanates, and (C) curing catalysts. Thus, a composition containing trimethoxysilyl-containing poly(propylene oxide), dipropylene glycol-propylene oxide copolymer, polypropylene glycol glycerol ether, Millionate MT (MDI), and dibutyltin bis(acetylacetonate) was kept at 20° and humidity 65% for 10 day to give a cured product without foaming.

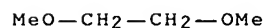
IC ICM C08G018-10

ICS C08G018-40
 CC 37-6 (Plastics Manufacture and Processing)
 IT **Polyurethanes, preparation**
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxyalkylene-; low-viscosity moisture-curable compns. containing urethane prepolymers and hydrolyzable silyl-containing polymers)
 IT **19412-90-9**, Glyme-zinc hexacyanocobaltate complex
169156-80-3
 RL: **CAT (Catalyst use)**; USES (Uses)
 (catalysts for preparation of **polyoxyalkylene polyols**;
 low-viscosity moisture-curable compns. containing urethane prepolymers and hydrolyzable silyl-containing polymers)
 IT **19412-90-9**, Glyme-zinc hexacyanocobaltate complex
169156-80-3
 RL: **CAT (Catalyst use)**; USES (Uses)
 (catalysts for preparation of **polyoxyalkylene polyols**;
 low-viscosity moisture-curable compns. containing urethane prepolymers and hydrolyzable silyl-containing polymers)
 RN 19412-90-9 HCAPLUS
 CN Cobaltate(3-), hexakis(cyano-κC)-, (OC-6-11)-, zinc, compd. with 1,2-dimethoxyethane (2:3:?) (9CI) (CA INDEX NAME)
 CM 1
 CRN 14049-79-7
 CMF C6 Co N6 . 3/2 Zn
 CCI CCS



● 3/2 Zn²⁺

CM 2
 CRN 110-71-4
 CMF C4 H10 O2



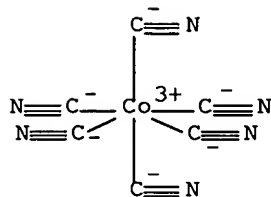
RN 169156-80-3 HCAPLUS
 CN Cobaltate(3-), hexakis(cyano-κC)-, (OC-6-11)-, zinc, compd. with 2-methyl-2-propanol (2:3:?) (9CI) (CA INDEX NAME)

CM 1

CRN 14049-79-7

CMF C6 Co N6 . 3/2 Zn

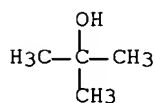
CCI CCS

● 3/2 Zn²⁺

CM 2

CRN 75-65-0

CMF C4 H10 O



L38 ANSWER 31 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:388945 HCAPLUS Full-text

DOCUMENT NUMBER: 133:31385

TITLE: Room temperature-curable urethane prepolymer compositions with reduced residual tackiness and improved surface weatherability

INVENTOR(S): Kashime, Kiyoteru

PATENT ASSIGNEE(S): Asahi Glass Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000159851	A2	20000613	JP 1998-333123	19981124
PRIORITY APPLN. INFO.:			JP 1998-333123	19981124

AB The compns., useful as sealants, adhesives, waterproofing materials, etc., comprise (A) 100 parts isocyanate-terminated urethane prepolymers manufactured

from (a) **polyoxyalkylene polyols** having mol. weight 1,000-15,000/OH and total unsatn. degree ≤ 0.05 meq/g and (b) polyisocyanates and (B) 1-20 parts photocurable compds. A composition comprising 5 parts Aronix M 8600 (polyester polyacrylate) and 100 parts urethane prepolymer manufactured from polyoxypropylene diol 100, polyoxypropylene triol 30, and Millionate MT 17 parts was cured to give a sheet showing little tackiness and no soiling nor crack after outdoor exposure for 1 mo.

IC ICM C08G018-10

ICS C08F002-44; C08F020-10; C08F290-06

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 42

ST polyurethane photocurable polyester polyacrylate sheet weatherability;
polyoxyalkylene polyol polyisocyanate copolymer curable sheet

IT **Polyurethanes, preparation**

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyoxyalkylene-; room temperature-curable urethane prepolymer compns.

with

reduced residual tackiness and improved surface weatherability)

IT **19412-90-9**, Cobaltate(3-), hexacyano-, zinc (2:3), compound with 1,2-dimethoxyethane

RL: **CAT (Catalyst use)**; USES (Uses)

(catalysts for manufacture of urethane prepolymer; room temperature-curable urethane prepolymer compns. with reduced residual tackiness and improved surface weatherability)

IT **51447-37-1P 152334-44-6P** 181298-94-2P, Millionate

MT-polypropylene glycol-polypropylene glycol glycerin ether copolymer
204636-70-4P

RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(room temperature-curable urethane prepolymer compns. with reduced residual tackiness and improved surface weatherability)

IT **19412-90-9**, Cobaltate(3-), hexacyano-, zinc (2:3), compound with 1,2-dimethoxyethane

RL: **CAT (Catalyst use)**; USES (Uses)

(catalysts for manufacture of urethane prepolymer; room temperature-curable urethane prepolymer compns. with reduced residual tackiness and improved surface weatherability)

RN 19412-90-9 HCAPLUS

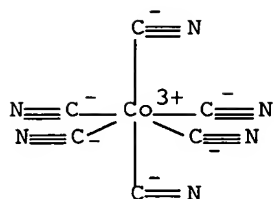
CN Cobaltate(3-), hexakis(cyano-κC)-, (OC-6-11)-, zinc, compd. with 1,2-dimethoxyethane (2:3:?) (9CI) (CA INDEX NAME)

CM 1

CRN 14049-79-7

CMF C6.Co N6 . 3/2 Zn

CCI CCS



● 3/2 Zn²⁺

CM 2

CRN 110-71-4

CMF C4 H10 O2

MeO—CH₂—CH₂—OMe

IT 51447-37-1P 152334-44-6P 204636-70-4P

RL: **IMF** (*Industrial manufacture*); TEM (Technical or engineered material use); **PREP** (*Preparation*); USES (Uses)

(room temperature-curable urethane prepolymer compns. with reduced residual tackiness and improved surface weatherability)

RN 51447-37-1 HCAPLUS

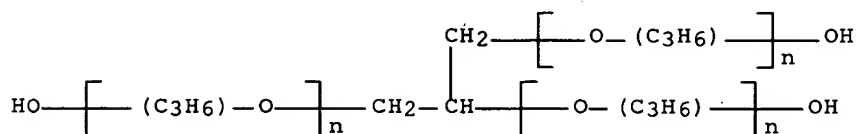
CN Poly[oxy(methyl-1,2-ethanediyl)], α,α',α''-1,2,3-propanetriyltris[ω-hydroxy-, polymer with α-hydro-ω-hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

CM .1

CRN 25791-96-2

CMF (C3 H6 O)_n (C3 H6 O)_n (C3 H6 O)_n C3 H8 O3

CCI IDS, PMS

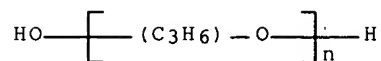


CM 2

CRN 25322-69-4

CMF (C3 H6 O)_n H2 O

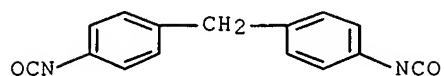
CCI IDS, PMS



CM 3

CRN 101-68-8

CMF C15 H10 N2 O2



RN 152334-44-6 HCAPLUS

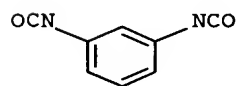
CN Oxirane, methyl-, polymer with 1,3-diisocyanatomethylbenzene, oxirane and $\alpha, \alpha', \alpha''$ -1,2,3-propanetriyltris[ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)]] (9CI) (CA INDEX NAME)

CM 1

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



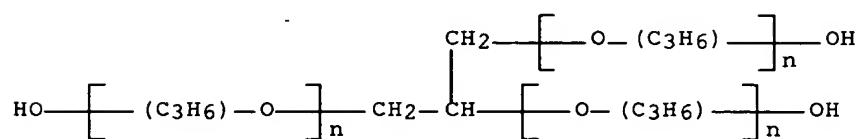
D1-Me

CM 2

CRN 25791-96-2

CMF (C3 H6 O)_n (C3 H6 O)_n (C3 H6 O)_n C3 H8 O3

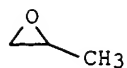
CCI IDS, PMS



CM 3

CRN 75-56-9

CMF C3 H6 O



CM 4

CRN 75-21-8

CMF C2 H4 O



RN 204636-70-4 HCAPLUS

CN Oxirane, methyl-, polymer with Coronate T 80, oxirane and
 $\alpha, \alpha', \alpha''$ -1,2,3-propanetriyltris[ω -
 hydroxypoly[oxy(methyl-1,2-ethanediyl)]] (9CI) (CA INDEX NAME)

CM 1

CRN 91825-07-9

CMF Unspecified

CCI PMS, MAN

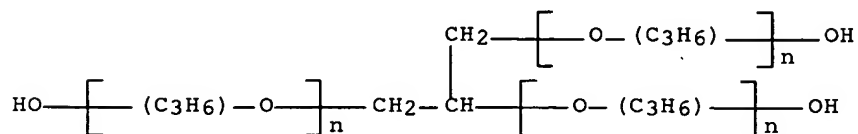
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CM 2

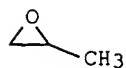
CRN 25791-96-2

CMF (C3 H6 O)_n (C3 H6 O)_n (C3 H6 O)_n C3 H8 O3

CCI IDS, PMS



CM 3

CRN 75-56-9
CMF C3 H6 O

CM 4

CRN 75-21-8
CMF C2 H4 O

L38 ANSWER 32 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1999:795881 HCAPLUS Full-text
 DOCUMENT NUMBER: 132:36239
 TITLE: Improved epoxide polymerization process reduces high-mol.-weight impurities present in **polyether polyol** products for polyurethane foams
 INVENTOR(S): Le-Khac, Bi; Holeschovsky, Ulrich B.; Rueter, Michael A.
 PATENT ASSIGNEE(S): Arco Chemical Technology, L.P., USA; Lyondell Chemie Technologie Nederland B.V.
 SOURCE: PCT Int. Appl., 31 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9964493	A1	19991216	WO 1999-EP3911	19990607
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
US 6028230	A	20000222	US 1998-92471	19980605
CA 2334027	AA	19991216	CA 1999-2334027	19990607
AU 9945082	A1	19991230	AU 1999-45082	19990607

EP 1091994	A1	20010418	EP 1999-927896	19990607
EP 1091994	B1	20030502		
R: BE, DE, ES, FR, GB, IT, NL, PT, RO				
BR 9911620	A	20011002	BR 1999-11620	19990607
JP 2002517578	T2	20020618	JP 2000-553494	19990607
CN 1110511	B	20030604	CN 1999-807060	19990607
PT 1091994	T	20030829	PT 1999-927896	19990607
ES 2198919	T3	20040201	ES 1999-927896	19990607
PRIORITY APPLN. INFO.:			US 1998-92471	A 19980605
			WO 1999-EP3911	W 19990607

AB The amount of high mol. weight impurity present in a **polyether polyol** produced by alkoxylation of an active hydrogen-containing initiator using an epoxide such as propylene oxide and a substantially amorphous highly active double metal cyanide complex catalyst may be advantageously lowered by having a non-protic Lewis acid present during the epoxide polymerization. The use of halides such as zinc chloride and aluminum chloride is especially effective for such purposes. The presence of minor amts. of water during polymerization seems to greatly increase the efficiency of the Lewis acid and also to improve the reproducibility of the results obtained. The higher purity **polyether polyols** produced are particularly useful in the preparation of slab and molded polyurethane foams, which tend to collapse or become excessively tight when elevated levels of high mol. tail are present in the **polyether polyol**. Thus, propylene oxide was polymerized using a trifunctional **polyether polyol** having a hydroxy number of 240 mg KOH/g as the starter and a double metal cyanide complex catalyst consisting of zinc hexacyanocobaltate, tert-Bu alc., zinc chloride and polyether. The **polyether polyol** products passed the Supercrit. Foam Test with a settle (collapse) much greater than that of a control **polyether polyol** prepared using a KOH catalyst when 5-10 ppm addnl. zinc chloride and 10 ppm water were added to the polymerization reaction mixture. A significant reduction is observed in the level of impurities having mol. weight >200,000, which are believed to be primarily responsible for causing foam collapse.

IC ICM C08G065-26

ICS C08G065-10; B01J027-26

CC 35-7 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 38

ST epoxide polymn **polyether polyol**; polyoxyalkylene

alkoxylation epoxide; polyoxypropylene triol polyurethane foam

IT **Polyurethanes, preparation**

RL: IMF (Industrial manufacture); PREP (Preparation)

(improved epoxide polymerization process reduces high-mol.-weight impurities

present in **polyether polyols** for slab and molded polyurethane foam applications)

IT Polymerization

(ring-opening; improved epoxide polymerization process reduces high-mol.-weight

impurities present in **polyether polyols** for slab and molded polyurethane foam applications)

IT Polyoxyalkylenes, preparation

RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); PREP (Preparation); PROC (Process)

(triol derivs.; improved epoxide polymerization process reduces high-mol.-weight

impurities present in **polyether polyols** for slab and molded polyurethane foam applications)

IT 26471-62-5DP, TDI, polymers with polyoxypropylene triol

RL: IMF (Industrial manufacture); PREP (Preparation)

(improved epoxide polymerization process reduces high-mol.-weight impurities

present in **polyether polyols** for slab and molded polyurethane foam applications)

IT 25322-69-4DP, triol derivs.
 RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); PREP (Preparation); PROC (Process)
 (improved epoxide polymerization process reduces high-mol.-weight impurities
 present in **polyether polyols** for slab and molded polyurethane foam applications)

IT 7732-18-5, Water, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (improved epoxide polymerization process reduces high-mol.-weight impurities
 present in **polyether polyols** for slab and molded polyurethane foam applications)

IT 75-65-0, tert-Butyl alcohol, uses 7429-90-5D, Aluminum, halides, uses 7439-89-6D, Iron, halides, uses 7439-96-5D, Manganese, halides, uses **7440-48-4D**, Cobalt, halides, uses **7440-66-6D**, Zinc, halides, uses 7446-70-0, Aluminum chloride, uses **7646-85-7**, Zinc chloride, uses **7733-02-0**, Zinc sulfate **7779-88-6**, Zinc nitrate **14049-79-7**, Zinc hexacyanocobaltate
 RL: **CAT (Catalyst use)**; USES (Uses)
 (polymerization catalyst; improved epoxide polymerization process reduces high-mol.-weight impurities present in **polyether polyols** for slab and molded polyurethane foam applications)

IT **7440-48-4D**, Cobalt, halides, uses **7440-66-6D**, Zinc, halides, uses **7646-85-7**, Zinc chloride, uses **7733-02-0**, Zinc sulfate **7779-88-6**, Zinc nitrate **14049-79-7**, Zinc hexacyanocobaltate
 RL: **CAT (Catalyst use)**; USES (Uses)
 (polymerization catalyst; improved epoxide polymerization process reduces high-mol.-weight impurities present in **polyether polyols** for slab and molded polyurethane foam applications)

RN 7440-48-4 HCAPLUS
 CN Cobalt (8CI, 9CI) (CA INDEX NAME)

Co

RN 7440-66-6 HCAPLUS
 CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

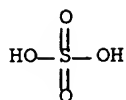
Zn

RN 7646-85-7 HCAPLUS
 CN Zinc chloride (ZnCl₂) (9CI) (CA INDEX NAME)

Cl-Zn-Cl

RN 7733-02-0 HCAPLUS

CN Sulfuric acid, zinc salt (1:1) (8CI, 9CI) (CA INDEX NAME)



● Zn

RN 7779-88-6 HCAPLUS

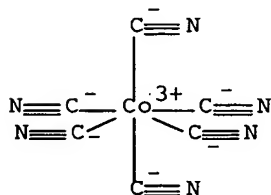
CN Nitric acid, zinc salt (8CI, 9CI) (CA INDEX NAME)



● 1/2 Zn

RN 14049-79-7 HCAPLUS

CN Cobaltate(3-), hexakis(cyano-κC)-, zinc (2:3), (OC-6-11)- (9CI) (CA INDEX NAME)

● 3/2 Zn²⁺

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 33 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1999:753144 HCAPLUS Full-text

DOCUMENT NUMBER: 132:3598

TITLE: Double metal cyanide catalysts containing cyclic, bidentate complexing agents

INVENTOR(S): Le-Khac, Bi; Wang, Wei; Faraj, Mahmoud K.

PATENT ASSIGNEE(S): Arco Chemical Technology L.P., USA; Lyondell Chemie Technologie Nederland B.V.

SOURCE: PCT Int. Appl., 28 pp.

CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

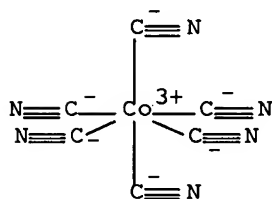
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9959719	A1	19991125	WO 1999-EP3147	19990507
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RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6013596	A	20000111	US 1998-80780	19980518
CA 2332599	AA	19991125	CA 1999-2332599	19990507
AU 9941401	A1	19991206	AU 1999-41401	19990507
BR 9910605	A	20010116	BR 1999-10605	19990507
EP 1094895	A1	20010502	EP 1999-924904	19990507
EP 1094895	B1	20040204		
R: BE, DE, ES, FR, GB, IT, NL, PT, RO				
JP 2002515517	T2	20020528	JP 2000-549376	19990507
CN 1121273	B	20030917	CN 1999-808800	19990507
PT 1094895	T	20040531	PT 1999-924904	19990507
ES 2214855	T3	20040916	ES 1999-924904	19990507
TW 460324	B	20011021	TW 1999-88107966	19990517
HK 1039910	A1	20040716	HK 2002-101287	20020221
PRIORITY APPLN. INFO.:				
			US 1998-80780	A 19980518
			US 1998-80780P	P 19980518
			WO 1999-EP3147	W 19990507
AB	When double metal cyanide (DMC) catalysts are prepared with a complexing agent comprising a mixture of a C3-5 aliphatic alc. and a cyclic bidentate compound selected from lactams and lactones, and, optionally, a functionalized polymer, polyether polyols produced with the catalysts contain reduced levels of high-mol.-weight polyol components as compared to those produced with conventional DMC catalysts. The polyether polyol products consistently perform better in urethane applications such as flexible and molded foams. Thus, a substantially noncryst. zinc hexacyanocobaltate (I) catalyst was prepared by treating an aqueous ZnCl ₂ solution with an aqueous potassium hexacyanocobaltate solution in the presence of tert-Bu alc. and 1-(2-hydroxyethyl)-2-pyrrolidone as the complexing agent components and polypropylene glycol as the functionalized polymer. Propylene oxide was added to an activated mixture containing I and a propoxylated glycerin starter. The polyoxypropylene triol produced contained no polyol component with a number-average mol. weight greater than .apprx.400,000 and passed the supercrit. foam test (a sensitive test designed to reveal whether or not polyols will cause foam settling or collapse in the field).			
IC	ICM B01J027-26 ICS B01J031-02; C08G065-10			
CC	35-3 (Chemistry of Synthetic High Polymers)			
ST	double metal cyanide catalyst polyether polyol ; polyoxyalkylene double metal cyanide complex catalyst; alkylene oxide polymn metal cyanide catalyst			
IT	Polyoxyalkylenes, preparation RL: IMF (Industrial manufacture); PREP (Preparation) (double metal cyanide complex catalysts containing alc. and cyclic			

- bidentate complexing agents minimize formation of high-mol. weight products in **polyether polyol** manufacture)
- IT **Polyurethanes, preparation**
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (double metal cyanide complex catalysts containing alc. and cyclic bidentate complexing agents minimize formation of high-mol. weight products in **polyether polyols** for manufacture of)
- IT Polymerization catalysts
 (double metal cyanide complexes; double metal cyanide complex catalysts containing alc. and cyclic bidentate complexing agents minimize formation of high-mol. weight products in **polyether polyol** manufacture)
- IT Polyoxyalkylenes, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (in preparation of double metal cyanide complex catalysts containing alc.
- and
 cyclic bidentate complexing agents for minimizing formation of high-mol. weight products in **polyether polyol** production)
- IT 75-65-0, tert-Butyl alcohol, uses 96-48-0, γ -Butyrolactone
 105-60-2, ϵ -Caprolactam, uses 502-44-3, ϵ -Caprolactone
 616-45-5, 2-Pyrrolidone 675-20-7, δ -Valerolactam 872-50-4,
 N-Methyl-2-pyrrolidone, uses 2687-91-4 3445-11-2, 1-(2-Hydroxyethyl)-2-pyrrolidone 59776-88-4
 RL: MOA (Modifier or additive use); USES (Uses)
 (complexing agent; double metal cyanide complex catalysts containing alc. and cyclic bidentate complexing agents minimize formation of high-mol. weight products in **polyether polyol** production)
- IT 25791-96-2P, Polypropylene glycol ether with glycerol
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (double metal cyanide complex catalysts containing alc. and cyclic bidentate complexing agents minimize formation of high-mol. weight products in **polyether polyol** manufacture)
- IT **14049-79-7P**, Zinc hexacyanocobaltate
 RL: **CAT (Catalyst use)**; IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
 (double metal cyanide complex catalysts containing alc. and cyclic bidentate complexing agents minimize formation of high-mol. weight products in **polyether polyol** production)
- IT **39279-01-1P**
 RL: **IMF (Industrial manufacture); PREP (Preparation)**
 (double metal cyanide complex catalysts containing alc. and cyclic bidentate complexing agents minimize formation of high-mol. weight products in **polyether polyols** for manufacture of)
- IT 9003-39-8, Poly(vinylpyrrolidone) 25322-69-4, Polypropylene glycol
 RL: NUU (Other use, unclassified); USES (Uses)
 (in preparation of double metal cyanide complex catalysts containing alc.
- and
 cyclic bidentate complexing agents for minimizing formation of high-mol. weight products in **polyether polyol** production)
- IT 7646-85-7, Zinc chloride, reactions 13963-58-1, Potassium hexacyanocobaltate
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reactant; in preparation of double metal cyanide complex catalysts for **polyether polyol** production)
- IT **14049-79-7P**, Zinc hexacyanocobaltate
 RL: **CAT (Catalyst use)**; IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
 (double metal cyanide complex catalysts containing alc. and cyclic bidentate complexing agents minimize formation of high-mol. weight

products in **polyether polyol** production)

RN 14049-79-7 HCAPLUS

CN Cobaltate(3-), hexakis(cyano-κC)-, zinc (2:3), (OC-6-11)- (9CI) (CA INDEX NAME)



●3/2 Zn²⁺

IT 39279-01-1P

RL: **IMF (Industrial manufacture); PREP (Preparation)**

(double metal cyanide complex catalysts containing alc. and cyclic bidentate complexing agents minimize formation of high-mol. weight products in **polyether polyols** for manufacture of)

RN 39279-01-1 HCAPLUS

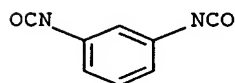
CN Poly[oxy(methyl-1,2-ethanediyl)], α,α',α''-1,2,3-propanetriyltris[ω-hydroxy-, polymer with 1,3-diisocyanatomethylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



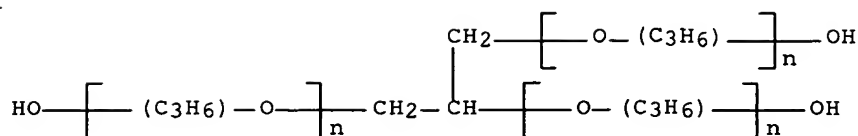
D1-Me

CM 2

CRN 25791-96-2

CMF (C3 H6 O)_n (C3 H6 O)_n (C3 H6 O)_n C3 H8 O3

CCI IDS, PMS



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT.

L38 ANSWER 34 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1999:308664 HCAPLUS Full-text

DOCUMENT NUMBER: 130:338567

TITLE: Manufacture of partially crystalline **polyether polyols**

INVENTOR(S): Schaefer, Walter; Hofmann, Joerg; Gupta, Pramod; Mueller, Hanns-Peter; Pielartzik, Harald

PATENT ASSIGNEE(S): Bayer A.-G., Germany

SOURCE: Ger. Offen., 5 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19748359	A1	19990506	DE 1997-19748359	19971103
CA 2308168	AA	19990514	CA 1998-2308168	19981021
WO 9923135	A1	19990514	WO 1998-EP6689	19981021
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9914858	A1	19990524	AU 1999-14858	19981021
EP 1028990	A1	20000823	EP 1998-958860	19981021
EP 1028990	B1	20040107		
R: BE, DE, ES, FR, GB, IT, NL				
BR 9814110	A	20001003	BR 1998-14110	19981021
JP 2001521957	T2	20011113	JP 2000-519004	19981021
CN 1116335	B	20030730	CN 1998-810796	19981021
ES 2212381	T3	20040716	ES 1998-958860	19981021
TW 486494	B	20020511	TW 1998-87118009	19981030
MX 200003991	A	20001110	MX 2000-3991	20000425
US 6458918	B1	20021001	US 2000-530304	20000427
HK 1033834	A1	20040416	HK 2001-104361	20010622
PRIORITY APPLN. INFO.:			DE 1997-19748359	A 19971103
			WO 1998-EP6689	W 19981021

OTHER SOURCE(S): MARPAT 130:338567

AB A partially crystalline **polyether polyol** with number-average mol. weight (Mn) 500-100,000 and isotactic **triad** content >35%, useful in the manufacture of polyurethanes, is prepared by polymerization of an alkylene oxide initiated by Q[(OCH₂CHR₁)_l(OCH₂CHR₂)_nOH]_y [Q = C₂-20 alkane residue; R₁, R₂ = H, C₁-20 hydrocarbyl; l, n = 0-40; y = 2-6] in the presence of (RO)_xM₂OM₁OM₂(OR)_x (M₁ =

Zn, Co, Mo, Fe, Cr, Mn; M2 = Al, Ti; R = C1-10 alkyl; x = 2, 3) as catalyst. Thus, reaction of Zn(OAc)₂ with Al(OPr-iso)₃ in refluxing Decalin with distillation of iso-PrOAc gave a 0.35M solution of (iso-PrO)₂AlOZnOAl(OPr-iso)₂ (I). Heating 1.3 g I in 100 g polypropylene glycol (OH number 112 mg KOH/g) for 6 h at 130°/0.2 millibar with addition of toluene and polymerization of propylene oxide therewith at 130-140°/3 bars gave a waxy **polyether polyol** with OH number 20 mg KOH/g, isotactic **triad** content 64%, and Mn 5900, which showed a crystalline phase m.p. of 55°.

- IC ICM C08G065-06
ICS C08G065-22; C08G018-48; B01J031-02; C07C031-32; C07F007-28
ICA C08G065-10
CC 35-7 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67
IT Polyoxyalkylenes, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of partially crystalline **polyether polyols**)
IT Polyurethanes, preparation
RL: PNU (Preparation, unclassified); PREP (Preparation)
(polyoxyalkylene-; manufacture of partially crystalline **polyether polyols** for use in manufacture of)
IT Polymerization catalysts
(ring-opening, bimetallic μ -oxo alkoxides; manufacture of partially crystalline **polyether polyols**)
IT 25322-69-4P, Polypropylene glycol 25723-16-4P, Polypropylene glycol trimethylolpropane ether 52625-13-5P, Polypropylene glycol sorbitol ether 106392-12-5P, Ethylene oxide-propylene oxide block copolymer
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of partially crystalline **polyether polyols**)
IT 36900-81-9P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
USES (Uses)
(polymerization catalyst; manufacture of partially crystalline **polyether polyols**)

L38 ANSWER 35 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:785702 HCAPLUS Full-text

DOCUMENT NUMBER: 130:39134

TITLE: Rapid activation of double metal cyanide catalysts in polyol manufacture

INVENTOR(S): Hayes, John E.; Langsdorf, Leah J.; Isaacs, Bruce H.; Armellini, Fred J.

PATENT ASSIGNEE(S): Arco Chemical Technology Lp, USA

SOURCE: U.S., 5 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5844070	A	19981201	US 1997-857998	19970516
CA 2287247	AA	19981126	CA 1998-2287247	19980409
WO 9852689	A1	19981126	WO 1998-EP2098	19980409

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW

RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,

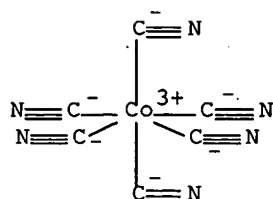
FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,
CM, GA, GN, ML, MR, NE, SN, TD, TG

AU 9876427	A1	19981211	AU 1998-76427	19980409
EP 981407	A1	20000301	EP 1998-924108	19980409
EP 981407	B1	20030319		
EP 981407	B2	20061011		
R: BE, DE, ES, FR, GB, IT, NL, SE				
BR 9809835	A	20000620	BR 1998-9835	19980409
JP 2001525878	T2	20011211	JP 1998-549846	19980409
CN 1115196	B	20030723	CN 1998-805078	19980409
ES 2195341	T3	20031201	ES 1998-924108	19980409
TW 530070	B	20030501	TW 1998-87107580	19980515

PRIORITY APPLN. INFO.:

US 1997-857998 A 19970516
WO 1998-EP2098 W 19980409

- AB A polyol starter or starter/catalyst mixture is heated under vacuum under conditions effective to achieve improved stripping compared with conventional vacuum stripping, the conditions being coupling vacuum stripping with inert gas, such as CO₂, sparging or stripping in the presence of an organic solvent such as ethers. Rapid activation makes process start-ups reliable and reduces cycle time, gives polyols with lower viscosity, lower polydispersity, and lower unsatn. for improved polyurethane foams.
- IC ICM C08F006-00
ICS C08G059-68; C08G065-04; C08J003-00
- INCL 528501000
- CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 35, 38
- IT **Polyurethanes, preparation**
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(~~polyether~~, foams; **polyol** precursor manufacture using rapid activation of double metal cyanide catalysts by polyol vacuum stripping and inert gas sparging or with addition organic solvent)
- IT **14049-79-7, Zinc hexacyanocobaltate**
RL: **CAT (Catalyst use)**; USES (Uses)
(complex; polyol precursor manufacture using rapid activation of double metal cyanide catalysts by polyol vacuum stripping and inert gas sparging or with addition organic solvent)
- IT 26471-62-5DP, TDI, polymer with **polyether polyols**
RL: IMF (Industrial manufacture); PREP (Preparation)
(**polyol** precursor manufacture using rapid activation of double metal cyanide catalysts by polyol vacuum stripping and inert gas sparging or with addition organic solvent)
- IT **14049-79-7, Zinc hexacyanocobaltate**
RL: **CAT (Catalyst use)**; USES (Uses)
(complex; polyol precursor manufacture using rapid activation of double metal cyanide catalysts by polyol vacuum stripping and inert gas sparging or with addition organic solvent)
- RN 14049-79-7 HCAPLUS
- CN Cobaltate(3-), hexakis(cyano-κC)-, zinc (2:3), (OC-6-11)-(9CI) (CA INDEX NAME)



● 3/2 Zn²⁺

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

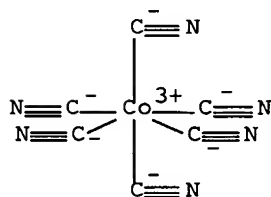
L38 ANSWER 36 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1997:457038 HCAPLUS Full-text
 DOCUMENT NUMBER: 127:66340
 TITLE: Process for the preparation of polyol polymer dispersions
 INVENTOR(S): Simroth, Donald W.; Zhou, Xinhua; Rose, Charles V.
 PATENT ASSIGNEE(S): Arco Chemical Technology, L.P., USA
 SOURCE: Eur. Pat. Appl., 18 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 776922	A1	19970604	EP 1996-308683	19961129
EP 776922	B1	20020313		
R: AT, BE, DE, DK, ES, FR, GB, GR, IE, IT, NL, SE				
US 5688861	A	19971118	US 1995-565516	19951130
CA 2188965	AA	19970531	CA 1996-2188965	19961028
JP 09157385	A2	19970617	JP 1996-303472	19961030
TW 430676	B	20010421	TW 1996-85114249	19961120
ZA 9609938	A	19970623	ZA 1996-9938	19961127
AU 9674043	A1	19970605	AU 1996-74043	19961128
AU 722568	B2	20000803		
BR 9605748	A	19980825	BR 1996-5748	19961128
CN 1156731	A	19970813	CN 1996-118548	19961129
CN 1089773	B	20020828		
SG 81905	A1	20010724	SG 1996-11465	19961129
AT 214404	E	20020315	AT 1996-308683	19961129
ES 2173258	T3	20021016	ES 1996-308683	19961129
US 5955534	A	19990921	US 1997-915101	19970820
US 6143802	A	20001107	US 1999-312046	19990514
CN 1396190	A	20030212	CN 2002-102793	20020205
PRIORITY APPLN. INFO.:			US 1995-565516	A 19951130
			US 1997-915101	A3 19970820

AB Polymer polyols and polymer-modified polyols having substantially no transition metal content in the polyol continuous phase are prepared from encapsulative double metal cyanide complex (e.g., Zn hexacyanocobaltate)-catalyzed polyoxyalkylene **polyether** base **polyols** [e.g., poly(propylene oxide)] without substantial removal of double metal cyanide complex catalyst residues

from the base polyols and subsequent in situ polymerization of one or more polymerizable monomers.

IC ICM C08G065-10
ICS C08G018-48
CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67
IT **Polyurethanes, preparation**
RL: IMF (Industrial manufacture); PREP (Preparation)
(process for the preparation of polyol polymer dispersions)
IT **14049-79-7, Zinc hexacyanocobaltate**
RL: **CAT (Catalyst use)**; USES (Uses)
(polymerization catalysts; process for the preparation of polyol polymer dispersions)
IT **14049-79-7, Zinc hexacyanocobaltate**
RL: **CAT (Catalyst use)**; USES (Uses)
(polymerization catalysts; process for the preparation of polyol polymer dispersions)
RN 14049-79-7 HCAPLUS
CN Cobaltate(3-), hexakis(cyano-κC)-, zinc (2:3), (OC-6-11)- (9CI) (CA INDEX NAME)



●3/2 Zn²⁺

L38 ANSWER 37 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:259675 HCAPLUS Full-text
DOCUMENT NUMBER: 126:238814
TITLE: Viscosity-stable isocyanate-terminated prepolymers and polyoxyalkylene **polyether polyols** having improved storage stability.
INVENTOR(S): Lawrey, Bruce D.; Seneker, Stephen D.; Barksby, Nigel
PATENT ASSIGNEE(S): Arco Chemical Technology, L.P., USA
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 759450	A2	19970226	EP 1996-305838	19960808
EP 759450	A3	19971001		
EP 759450	B1	20021023		
R: AT, BE, DE, DK, ES, FR, GB, GR, IE, IT, NL, SE				
US 5811829	A	19980922	US 1995-513264	19950810

JP 09132630	A2	19970520	JP 1996-216948	19960731
TW 440573	B	20010616	TW 1996-85109436	19960805
CA 2182910	AA	19970211	CA 1996-2182910	19960808
AT 226602	E	20021115	AT 1996-305838	19960808
ES 2185751	T3	20030501	ES 1996-305838	19960808
RO 120262	B1	20051130	RO 1996-1622	19960808
AU 9662014	A1	19970213	AU 1996-62014	19960809
AU 702431	B2	19990218		
BR 9603364	A	19980512	BR 1996-3364	19960809
HU 218734	B	20001128	HU 1996-2195	19960809
CN 1151996	A	19970618	CN 1996-113318	19960810
CN 1092678	B	20021016		
ZA 9606792	A	19970212	ZA 1996-6792	19960812
US 5919888	A	19990706	US 1998-88275	19980601
US 6036879	A	20000314	US 1999-246495	19990209
CN 1397578	A	20030219	CN 2002-107366	20020315
CN 1397576	A	20030219	CN 2002-107367	20020315
HK 1051699	A1	20050527	HK 2003-103986	20030605
HK 1051700	A1	20050527	HK 2003-104016	20030606
PRIORITY APPLN. INFO.:			US 1995-513264	A 19950810
			US 1998-88275	A3 19980601
AB	Polyalkylene polyols containing double metal cyanide complexes or residues thereof as are produced during the preparation of polyoxyalkylene polyols by the double metal cyanide complex catalyzed oxyalkylation of a suitably functional hydric initiator are stable without catalyst removal (i.e., the product contains 10-1000 ppm catalyst or catalyst residue). Isocyanate-terminated prepolymers prepared from such polyols are surprisingly viscosity-stable relative to similar prepolymers prepared from polyols not containing double metal cyanide complexes or residues thereof. A typical polyol was manufactured by polymerization of propylene oxide with polypropylene glycol in the presence of tert-BuOH-Zn hexacyanocobaltate complex at 105°.			
IC	ICM C08G018-48			
	ICS C08G018-10; C08G065-26; C08G065-10; C08L071-02			
CC	35-3 (Chemistry of Synthetic High Polymers)			
IT	Polymerization catalysts (manufacture of polyoxyalkylene polyether polyols having improved storage stability in presence of double metal cyanide complexes for preparation of viscosity-stable isocyanate-terminated prepolymers)			
IT	Polyoxyalkylenes, preparation RL: IMF (Industrial manufacture); PREP (Preparation) (manufacture of polyoxyalkylene polyether polyols having improved storage stability in presence of double metal cyanide complexes for preparation of viscosity-stable isocyanate-terminated prepolymers)			
IT	Polyurethanes, preparation RL: IMF (Industrial manufacture); PREP (Preparation) (polyoxyalkylene-; manufacture of polyoxyalkylene polyether polyols having improved storage stability in presence of double metal cyanide complexes for preparation of viscosity-stable isocyanate-terminated prepolymers)			
IT	67-63-0D, Isopropanol, complexes with double metal cyanides RL: CAT (Catalyst use); USES (Uses) (manufacture of polyoxyalkylene polyether polyols having improved storage stability in presence of double metal cyanide complexes for preparation of viscosity-stable isocyanate-terminated prepolymers)			
IT	75-65-0DP, tert-Butyl alcohol, complexes with zinc hexacyanocobaltate 110-71-4DP, Glyme, complexes with zinc hexacyanocobaltate 14049-79-7DP , Zinc hexacyanocobaltate, complexes 25322-69-4DP,			

Polypropylene glycol, complexes with zinc hexacyanocobaltate

RL: **CAT (Catalyst use)**; IMF (Industrial manufacture); PREP

(Preparation); USES (Uses)

(manufacture of polyoxyalkylene **polyether polyols** having improved storage stability in presence of double metal cyanide complexes for preparation of viscosity-stable isocyanate-terminated prepolymers)

IT **9048-57-1P**, Diphenylmethane 4,4'-diisocyanate-polypropylene glycol copolymer **168269-80-5P**

RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**

(manufacture of polyoxyalkylene **polyether polyols** having improved storage stability in presence of double metal cyanide complexes for preparation of viscosity-stable isocyanate-terminated prepolymers)

IT 25322-69-4P, Polypropylene glycol

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(manufacture of polyoxyalkylene **polyether polyols** having improved storage stability in presence of double metal cyanide complexes for preparation of viscosity-stable isocyanate-terminated prepolymers)

IT **14049-79-7DP**, Zinc hexacyanocobaltate, complexes

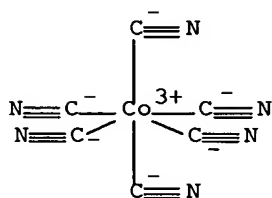
RL: **CAT (Catalyst use)**; IMF (Industrial manufacture); PREP

(Preparation); USES (Uses)

(manufacture of polyoxyalkylene **polyether polyols** having improved storage stability in presence of double metal cyanide complexes for preparation of viscosity-stable isocyanate-terminated prepolymers)

RN 14049-79-7 HCAPLUS

CN Cobaltate(3-), hexakis(cyano-κC)-, zinc (2:3), (OC-6-11)- (9CI) (CA INDEX NAME)



IT **9048-57-1P**, Diphenylmethane 4,4'-diisocyanate-polypropylene glycol copolymer **168269-80-5P**

RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**

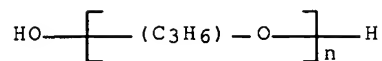
(manufacture of polyoxyalkylene **polyether polyols** having improved storage stability in presence of double metal cyanide complexes for preparation of viscosity-stable isocyanate-terminated prepolymers)

RN 9048-57-1 HCAPLUS

CN Poly[oxy(methyl-1,2-ethanediyl)], α-hydro-ω-hydroxy-, polymer with 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

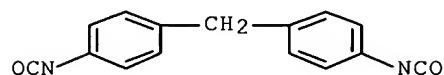
CM 1

CRN 25322-69-4
 CMF (C3 H6 O)_n H2 O
 CCI IDS, PMS



CM 2

CRN 101-68-8
 CMF C15 H10 N2 O2



RN 168269-80-5 HCAPLUS
 CN Poly[oxy(methyl-1,2-ethanediyl)], α -hydro- ω -hydroxy-, polymer
 with Mondur M (9CI) (CA INDEX NAME)

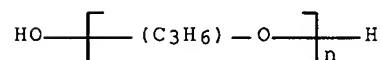
CM 1

CRN 91932-35-3
 CMF Unspecified
 CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 25322-69-4
 CMF (C3 H6 O)_n H2 O
 CCI IDS, PMS



L38 ANSWER 38 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1997:169165 HCAPLUS Full-text
 DOCUMENT NUMBER: 126:239430
 TITLE: Double metal cyanide-catalyzed polyoxyethylene-
 polyoxypropylene random polyols useful in flexible
 high-resilience foams with reduced shrinkage
 INVENTOR(S): Hager, Stanley L.

PATENT ASSIGNEE(S): Arco Chemical Technology, L.P., USA
 SOURCE: U.S., 12 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5605939	A	19970225	US 1996-592087	19960126
US 5648559	A	19970715	US 1996-734561	19961021
CA 2241627	AA	19970731	CA 1997-2241627	19970123
CA 2241627	C	20060829		
WO 9727236	A1	19970731	WO 1997-EP306	19970123
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9715448	A1	19970820	AU 1997-15448	19970123
EP 876416	A1	19981111	EP 1997-901596	19970123
EP 876416	B1	19990811		
R: BE, DE, ES, FR, GB, IT, NL, SE				
CN 1209820	A	19990303	CN 1997-191859	19970123
CN 1114640	B	20030716		
BR 9706974	A	19990406	BR 1997-6974	19970123
ES 2135287	T3	19991016	ES 1997-901596	19970123
JP 2000517347	T2	20001226	JP 1997-526542	19970123
TW 440577	B	20010616	TW 1997-86100729	19970123
PRIORITY APPLN. INFO.:				US 1996-592087 A3 19960126
				WO 1997-EP306 W 19970123

AB The title foams are prepared from polyols catalyzed with double metal cyanide complexes, e.g., zinc hexacyanocobaltate, which offer high catalytic activity and easy removal by simple filtration. The polyol component comprises a **polyoxyalkylene polyol** containing $\geq 20\%$ of ≥ 1 polyoxyethylene-polyoxypropylene random polyols with an unsatn. of ≤ 0.02 mequiv/g. The polyol has a functionality of ≥ 2 , prepared at least in part by the cyanide complex, and contains $\leq 35\%$ of an all oxypropylene block catalyzed by the cyanide; and has ≥ 1 random external blocks prepared by oxyalkylation of $\geq 2\%$ ethylene oxide with propylene oxide.

IC ICM C08G018-62

INCL 521137000

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 37, 67

IT 27071-03-0

RL: **CAT (Catalyst use)**; USES (Uses)

(double metal cyanide-catalyzed polyoxyethylene-polyoxypropylene polyols for flexible high-resilience foams with reduced shrinkage)

IT 50-70-4DP, D-Glucitol, **polyoxyalkylene polyols**, polymers with TDI, uses 56-81-5DP, 1,2,3-Propanetriol, **polyoxyalkylene polyols**, polymers with TDI, uses 9003-11-6DP, Ethylene oxide-propylene oxide copolymer, polyols, polymers with TDI 26471-62-5DP, TDI, polymers with polyoxyethylene-polyoxypropylene polyols **188570-64-1P**

RL: **IMF (Industrial manufacture)**; PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES

(Uses)

(foams; double metal cyanide-catalyzed polyoxyethylene-polyoxypropylene polyols for flexible high-resilience foams with reduced shrinkage)

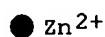
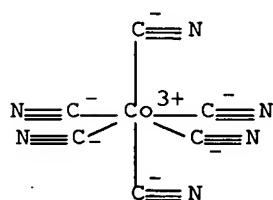
IT 27071-03-0

RL: **CAT (Catalyst use)**; USES (Uses)

(double metal cyanide-catalyzed polyoxyethylene-polyoxypropylene polyols for flexible high-resilience foams with reduced shrinkage)

RN 27071-03-0 HCAPLUS

CN Cobaltate(3-), hexakis(cyano-κC)-, zinc (1:1), (OC-6-11)- (9CI) (CA INDEX NAME)



IT 188570-64-1P

RL: **IMF (Industrial manufacture)**; PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(foams; double metal cyanide-catalyzed polyoxyethylene-polyoxypropylene polyols for flexible high-resilience foams with reduced shrinkage)

RN 188570-64-1 HCAPLUS

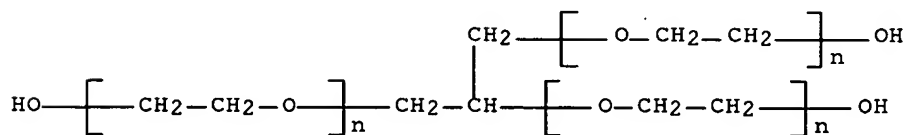
CN Oxirane, methyl-, polymer with 1,3-diisocyanatomethylbenzene, methyloxirane polymer with oxirane ether with 1,2,3-propanetriol (3:1), oxirane and α,α',α''-1,2,3-propanetriyltris[ω-hydroxypoly(oxy-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

CRN 31694-55-0

CMF (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n C3 H8 O3

CCI PMS

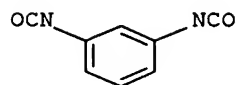


CM 2

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS

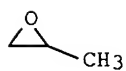


D1— Me

CM 3

CRN 75-56-9

CMF C3 H6 O



CM 4

CRN 75-21-8

CMF C2 H4 O



CM 5

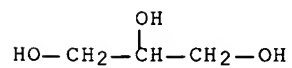
CRN 9082-00-2

CMF C3 H8 O3 . 3 (C3 H6 O . C2 H4 O) x

CM 6

CRN 56-81-5

CMF C3 H8 O3

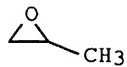


CM 7

CRN 9003-11-6
CMF (C3 H6 O . C2 H4 O) x
CCI PMS

CM 8

CRN 75-56-9
CMF C3 H6 O



CM 9

CRN 75-21-8
CMF C2 H4 O



INVENTOR SEARCH

=> d que 137

L28 2317 SEA FILE=HCAPLUS ABB=ON PLU=ON ("KIM I"/AU OR "KIM I A"/AU OR "KIM I B"/AU OR "KIM I C"/AU OR "KIM I CHEONG"/AU OR "KIM I D"/AU OR "KIM I E"/AU OR "KIM I G"/AU OR "KIM I GON"/AU OR "KIM I GWON"/AU OR "KIM I H"/AU OR "KIM I HO"/AU OR "KIM I HOON"/AU OR "KIM I HUN"/AU OR "KIM I HWA"/AU OR "KIM I I"/AU OR "KIM I J"/AU OR "KIM I JONG"/AU OR "KIM I JUN"/AU OR "KIM I K"/AU OR "KIM I KI HONG"/AU OR "KIM I M"/AU OR "KIM I N"/AU OR "KIM I P"/AU OR "KIM I R"/AU OR "KIM I S"/AU OR "KIM I SEOP"/AU OR "KIM I SU"/AU OR "KIM I SUN"/AU OR "KIM I T"/AU OR "KIM I TAE"/AU OR "KIM I U"/AU OR "KIM I W"/AU OR "KIM I Y"/AU OR "KIM I Y S"/AU OR "KIM I YEOB"/AU OR "KIM I YEONG"/AU OR "KIM I YEOP"/AU OR "KIM I YONG"/AU OR "KIM I YOUNG"/AU OR "KIM I YOUNG EUN"/AU OR "KIM IL YONG"/AU OR "KIM IL"/AU OR "KIM IL BAE"/AU OR "KIM IL BOK"/AU OR "KIM IL BONG"/AU OR "KIM IL BOO"/AU OR "KIM IL BUNG"/AU OR "KIM IL C"/AU OR "KIM IL CHAN"/AU OR "KIM IL CHEOL"/AU OR "KIM IL CHOL"/AU OR "KIM IL CHOO"/AU OR "KIM IL CHUL"/AU OR "KIM IL DAE"/AU OR "KIM IL DEOK"/AU OR "KIM IL DO"/AU OR "KIM IL DONG"/AU OR "KIM IL DOO"/AU OR "KIM IL DU"/AU OR "KIM IL GI"/AU OR "KIM IL GON"/AU OR "KIM IL GOO"/AU OR "KIM IL GU"/AU OR "KIM IL GUK"/AU OR "KIM IL GWAN"/AU OR "KIM IL GWANG"/AU OR "KIM IL GWEON"/AU OR "KIM IL GWON"/AU OR "KIM IL GYEONG"/AU OR "KIM IL GYOON"/AU OR "KIM IL GYU"/AU OR "KIM IL HAE"/AU OR "KIM IL HAK"/AU OR "KIM IL HAN"/AU OR "KIM IL HEE"/AU OR "KIM IL HO"/AU OR "KIM IL HONG"/AU OR "KIM IL HOON"/AU OR "KIM IL HWA"/AU OR "KIM IL HWAN"/AU OR "KIM IL HYEOK"/AU OR "KIM IL HYEON"/AU OR "KIM IL HYEONG"/AU OR "KIM IL HYONG"/AU OR "KIM IL HYOUNG"/AU OR "KIM IL HYUK"/AU OR "KIM IL HYUN"/AU OR "KIM IL HYUNG"/AU OR "KIM IL J"/AU OR "KIM IL JAE"/AU OR "KIM IL JANG"/AU OR "KIM IL JIN"/AU OR "KIM IL JO"/AU OR "KIM IL JONG"/AU OR "KIM IL JOO"/AU OR "KIM IL JOONG"/AU OR "KIM IL JU"/AU OR "KIM IL JUNG"/AU OR "KIM IL K"/AU OR "KIM IL KI"/AU OR "KIM IL KON"/AU OR "KIM IL KU"/AU OR "KIM IL KWANG"/AU OR "KIM IL KWEON"/AU OR "KIM IL KWON"/AU OR "KIM IL KWUN")

L29 3051 SEA FILE=HCAPLUS ABB=ON PLU=ON ("LEE S"/AU OR "LEE S H"/AU OR "LEE S H D"/AU OR "LEE S H JR"/AU OR "LEE S H K"/AU OR "LEE S H S"/AU OR "LEE S H TONY"/AU OR "LEE S H YI"/AU OR "LEE SANG"/AU OR "LEE SANG H"/AU OR "LEE SANG HYUN"/AU)

L30 82 SEA FILE=HCAPLUS ABB=ON PLU=ON ("AN J"/AU OR "AN JUN"/AU OR "AN JUN TAE"/AU OR "AN JUN TAI"/AU)

L31 29 SEA FILE=HCAPLUS ABB=ON PLU=ON (L28 AND (L29 OR L30)) OR (L29 AND L30)

L32 5420 SEA FILE=HCAPLUS ABB=ON PLU=ON (L28 OR L29 OR L30)

L33 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L32 AND POLYETHER AND POLYOL

L34 9 SEA FILE=HCAPLUS ABB=ON PLU=ON L32 AND SYNDIOTAC?

L35 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L32 AND TRIAD

L36 6 SEA FILE=HCAPLUS ABB=ON PLU=ON L32 AND STEREOREG?

L37 50 SEA FILE=HCAPLUS ABB=ON PLU=ON L31 OR (L33 OR L34 OR L35 OR L36)

=> d 137 ibib abs 1-50

L37 ANSWER 1 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:966181 HCAPLUS Full-text

TITLE: Polymerization of methyl methacrylate with nickel α -diimine catalysts: effect of the methyl

position in the ligand
 AUTHOR(S): **Kim, Il**; Kim, Jae Sung; Ha, Chang-Sik; Park, Dae-Won
 CORPORATE SOURCE: Department of Polymer Science and Engineering, Pusan National University, Pusan, 609-735, S. Korea
 SOURCE: Proceedings - KORUS 2004, Korea-Russia International Symposium on Science and Technology, 8th, Tomsk, Russian Federation, June 26-July 3, 2004 (2004), Volume 2, 36-39. Institute of Electrical and Electronics Engineers: New York, N. Y.
 CODEN: 69ILJH; ISBN: 0-7803-8383-4
 DOCUMENT TYPE: Conference
 LANGUAGE: English
 AB In the solution polymns. of Me methacrylate with (α - diimine)nickel(II)/methyl aluminoxane (MAO), we observed effects of the position of two Me substituents in the ligand on both the activities of the catalysts and the polymer microstructure. α -Diimine nickel(II) catalysts gave **syndiotactic**-rich poly(Me methacrylate) with high mol. weight and narrow mol. weight distribution.
 REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 2 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2006:907065 HCAPLUS Full-text
 TITLE: Low cost piezoelectric magnetic composition with enhanced piezoelectric characteristics for stack type piezoelectric actuator
 INVENTOR(S): Jeong, Soon Jong; **Kim, Il Won**; Koh, Hung Hyuk; Kwon, Jeong Ho; Lee, Jae Shin; **Lee, Sang Hyun**; Song, Jae Sung
 PATENT ASSIGNEE(S): Korea Electro Technology Research Institute, S. Korea
 SOURCE: Repub. Korean Kongkae Taeho Kongbo, No pp. given
 CODEN: KRXXA7
 DOCUMENT TYPE: Patent
 LANGUAGE: Korean
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
KR 2005046166	A	20050518	KR 2003-80181	20031113
PRIORITY APPLN. INFO.:			KR 2003-80181	20031113

AB A piezoelec. magnetic composition for a stack type piezoelec. actuator is provided to obtain excellent piezoelec. characteristics from even a sintering temperature range of 950 or less, to economize fabrication costs and to reduce environmental contamination. A piezoelec. magnetic composition is represented as a compositional formula of $Pb[(Zr_{b}Ti_{1-b})x(Mg_{1/3}Nb_{2/3})y(Fe_{1/2}Nb_{1/2})z]O_3$ + a weight%Li₂O. The piezoelec. magnetic composition is synthesized with a variety of perovskite powders with a stable ABO₃ structure. The perovskite powders are made of $Pb(Mg_{1/3}Nb_{2/3})O_3$, $Pb(Zr_{b}Ti_{1-b})O_3$, $Pb(Fe_{1/2}Nb_{1/2})O_3$, resp.

L37 ANSWER 3 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2006:859939 HCAPLUS Full-text
 TITLE: Effect of ionic liquids on ring-opening polymerization of propylene oxide with double metal cyanide catalysts
 AUTHOR(S): **Kim, Il**; Baek, Seung Tae; Anas, K.; Park, Dae Won; Ha, Chang Sik
 CORPORATE SOURCE: Department of Polymer Science and Engineering, Pusan National University, Busan 609-735, S. Korea
 SOURCE: Abstracts of Papers, 232nd ACS National Meeting, San

Francisco, CA, United States, Sept. 10-14, 2006 (2006)
, FUEL-259. American Chemical Society: Washington, D.
C.

CODEN: 69IHRD

DOCUMENT TYPE: Conference; Meeting Abstract; (computer optical disk)
LANGUAGE: English

AB Double metal cyanide (DMC) catalysts prepared by reacting ZnCl_2 and $\text{K}_3[\text{Co}(\text{CN})_6]_2$ in aqueous solution in the presence of complexing agents, are very efficient catalysts for ring-opening polymerization of propylene oxide (PO) resulting **polyether polyols** showing enhanced properties. While the DMC catalysts offer significant advantages, unlike conventional KOH catalyst, they must normally be activated before the epoxide monomer can be added. Long initiation time (induction period), say several hour, increases cycle time, which undercuts the economic advantage of faster polymers. In addition, heating the catalyst for a prolonged period at high temperature above 100 °C can reduce its activity or deactivate it completely. In order to overcome this disadvantage, we combined the DMC catalyst with various ionic liqs. Since ionic liqs. are composed of anions and cations, either of which may interact with the reactants and therefore affect the outcome of the reaction. We demonstrate that the polymerization reactions by DMC catalyst combined with small amount (1 mmol) of ionic liquid exhibit a very short induction period (several minutes). While the reaction rate of the DMC catalyst in the absence of ionic liqs. decreased gradually as the amount of monomer added increased due to the deactivation of the active sites, no such deactivation was observed if ionic liqs. are used as a promoter. Plausible mechanisms are proposed for the ionic liquid assisted polymerization of PO by DMC catalyst.

L37 ANSWER 4 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1056040 HCAPLUS Full-text

DOCUMENT NUMBER: 143:478267

TITLE: Ring-opening polymerizations of propylene oxide by double metal cyanide catalysts prepared with ZnX_2 (X = F, Cl, Br, or I)

AUTHOR(S): Kim, Il; Byun, Seung Hoon; Ha, Chang-Sik

CORPORATE SOURCE: Department of Polymer Science and Engineering, Pusan National University, Geumjeong-gu, 609-735, S. Korea

SOURCE: Journal of Polymer Science, Part A: Polymer Chemistry (2005), 43(19), 4393-4404

CODEN: JPACEC; ISSN: 0887-624X

PUBLISHER: John Wiley & Sons, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Polymers. of propylene oxide were carried out with double metal cyanide (DMC) catalysts based on $\text{Zn}_3[\text{Co}(\text{CN})_6]_2$. Through the control of the type and amount of ZnX_2 (X = F, Cl, Br, or I) during the preparation of the catalyst, the catalytic activity, induction period, and unsatn. level in the **polyether polyols** could be tuned. The DMC catalysts were characterized by XPS, IR spectroscopy, and x-ray powder diffraction. In general, ZnBr_2 was the most effective zinc halide with respect to the properties of the resulting polymers as well as the activity and induction period. The average rates of polymers. of DMC catalysts prepared with ZnCl_2 , ZnBr_2 , and ZnI_2 were 889, 1667, and 784 g of polyoxypropylene/g of catalyst h, resp., with induction periods of about 53, 5, and 60 min, resp., at 115 °C. The DMC catalysts produced polyoxypropylenes with an ultralow unsatn. level (0.0025-0.0057 mequiv/g) and a narrow mol. weight distribution (1.07-1.42) without high-mol.-weight tails; this resulted in a low viscosity (962-3950 cP). According to the results collected from catalyst characterizations and polymers., the active sites of DMC-catalyzed polymerization had mainly coordinative characters. The presence

of free anions accelerated the ring-opening procedure and thus enhanced the propagation rate and shortened the induction period.

REFERENCE COUNT: 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 5 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:698405 HCAPLUS Full-text

DOCUMENT NUMBER: 143:154244

TITLE: **Polyether polyol** having **stereoregularity** and method of preparing the same

INVENTOR(S): **Kim, Il; Lee, Sang Hyun; An, Jun Tai**

PATENT ASSIGNEE(S): SKC Inc., S. Korea

SOURCE: U.S. Pat. Appl. Publ., 8 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005171319	A1	20050804	US 2004-828800	20040422
KR 2005078969	A	20050808	KR 2004-7102	20040203
PRIORITY APPLN. INFO.:			KR 2004-7102	A 20040203

AB Disclosed is **polyether polyol** for use in production of polyurethane, characterized in that **polyether polyol** carbons have **stereoregularity of syndiotactic triad**. Further, a method of preparing such **polyether polyol** is provided wherein an epoxy compound is polymerized in the presence of a double metal cyanide catalyst prepared by reaction of ZnCl₂, tert-BuOH, K hexacyanocobaltate, and polytetrahydrofuran. Therefore, polyurethane resulting from **stereoregular polyether polyol** is superior in phys. properties to polyurethanes obtained by use of atactic **polyether polyols**.

L37 ANSWER 6 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:674169 HCAPLUS Full-text

DOCUMENT NUMBER: 144:10618

TITLE: Use of fouling resistant nanofiltration and reverse osmosis membranes for dyeing wastewater effluent treatment

AUTHOR(S): Myung, S.-W.; Choi, I.-H.; **Lee, S.-H.**; **Kim, I.-C.**; Lee, K.-H.

CORPORATE SOURCE: Membrane and Separation Research Center, Korea Research Institute of Chemical Technology, Taejon, 305-606, S. Korea

SOURCE: Water Science and Technology (2005), 51(6-7, Water Environment--Membrane Technology), 159-164

CODEN: WSTED4; ISSN: 0273-1223

PUBLISHER: IWA Publishing

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Dyeing wastewater was post-treated by using nanofiltration (NF) and reverse osmosis (RO) membranes. To reduce membrane fouling, poly (vinyl alc.) (PVA) with a neutral charge was coated on NF and RO membranes. The effect of surface charge and surface roughness on membrane fouling was investigated. Dyeing wastewater was pre-treated by using coagulation, activated sludge process, and MF process to investigate the effect of the pre-treatment on the membrane fouling. It is demonstrated that the extent of fouling is

significantly influenced by the surface roughness and the surface charge on the NF and RO membranes. A membrane with a smooth and neutral surface was fouled less. The pre-treatment was essential for avoiding NF and RO membranes fouling. The quality of the final permeate was acceptable for water reuse.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 7 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:329245 HCAPLUS Full-text

DOCUMENT NUMBER: 144:77867

TITLE: Development and characteristics of a 25-in. XGA PDP using LTCC-M technology

AUTHOR(S): Mun, J. D.; **Kim, I. T.**; Cho, C. R.; Hwang, K. T.; Moon, S. J.; Boo, K. H.; Moon, G. J.; **Lee, S. H.**; Kwon, Y. H.; Kim, M. S.; Koo, B. J.; Han, J. K.; Kong, S. S.; Kim, J. D.

CORPORATE SOURCE: Daewoo Electronics Co., Ltd, Seoul, S. Korea

SOURCE: Digest of Technical Papers - Society for Information Display International Symposium (2002), 33, 1064-1067
CODEN: DTPSDS

PUBLISHER: Society for Information Display

DOCUMENT TYPE: Journal; (computer optical disk)

LANGUAGE: English

AB 25'' XGA (165 μ m pitch) PDP panel was developed using LTCC-M (Low Temperature Cofired Ceramic on Metal) technol. Simulations of optimum barrier height and gas composition for maximum power efficiency was carried out and the gas composition was determined to be 71 % He-25 % Ne-4 % Xe (in vol %) for the LTCC-M PDP panel. Some packaging issues including vacuum compatibility of LTCC-M panel are addressed and the LTCC-M panel properties are described.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 8 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:833275 HCAPLUS Full-text

DOCUMENT NUMBER: 142:262772

TITLE: Synthesis of High-performance Polyurethane Elastomers with Ultra-low Monol Content Poly(oxy propylene)

AUTHOR(S): **Kim, Il**; Kim, Tak; Ha, Chang-Sik

CORPORATE SOURCE: Department of Polymer Science and Engineering, Pusan National University, Jangjeon-dong, S. Korea

SOURCE: Molecular Crystals and Liquid Crystals (2004), 415, 35-42

CODEN: MCLCD8; ISSN: 1542-1406

PUBLISHER: Taylor & Francis, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A fundamental understanding of the unsatn. (monol) content effect in propylene oxide based **polyether polyols** (PPG) on the properties of 4,4'-methylene diisocyanate/1,4-butanediol cured polyurethane (PU) elastomers, a series of PPG samples with different monol content from 0.035 to 0.005 meq/ were synthesized by using both KOH and double metal cyanide catalysts. The monol content contained in PPG is demonstrated to be a key factor to achieve high-performance PU elastomer. The mech. properties of low monol PPG derived PU approached to those of poly(tetramethylene ether glycol) derived PU. The narrow MWD of PPG together with low monol content results in a reduction of viscosities of both PPG and resulting PU prepolymer.

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 9 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:741475 HCAPLUS Full-text
 DOCUMENT NUMBER: 141:395920
 TITLE: Preparation of multi-metal cyanide catalysts and ring-opening polymerization of propylene oxide
 AUTHOR(S): **Kim, Il**; Ahn, Jun-Tae; **Lee, Sang-Hyun**; Ha, Chang-Sik; Park, Dae-Won
 CORPORATE SOURCE: Division of Chemical Engineering, Pusan National University, Pusan, 609-735, S. Korea
 SOURCE: Catalysis Today (2004), 93-95, 511-516
 CODEN: CATTEA; ISSN: 0920-5861
 PUBLISHER: Elsevier B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Polymns. of propylene oxide have been carried out by using double metal cyanide (DMC) catalyst prepared by reacting ZnCl_2 and $\text{K}_3[\text{Co}(\text{CN})_6]_2$ in the presence of complexing agents and multi-metal cyanide (MMC) catalyst prepared by reacting ZnCl_2 , $\text{K}_3[\text{Co}(\text{CN})_6]_2$ and $\text{K}_4\text{Fe}(\text{CN})_6$ in the presence of complexing agents. The catalysts were characterized by XPS, IR spectroscopy and x-ray powder diffraction. By controlling the type of complexing agent and metal, and by controlling polymerization parameters, the catalytic activity, initiation time and the unsatn. level of poly(oxypropylene) could be tuned. Both DMC and MMC catalysts showed very high activities, and the MMC catalyst showed high activity in a wide range of temperature (30-130°). The POPs obtained by the DMC catalyst and the MMC catalysts were characterized by ultra-low level of unsatn. (0.002-0.01 meq/g) and by polydispersity (MWD = 1.02-1.10). The active sites of DMC-catalyzed polymerization of propylene oxide had both cationic and coordinative characters.

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 10 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:653809 HCAPLUS Full-text
 DOCUMENT NUMBER: 141:314686
 TITLE: Synthesis of chlorotitanium(IV) schiff-base complexes and their application to styrene polymerization
 AUTHOR(S): **Kim, Il**; Ha, Yun Sun; Zhang, Dan Feng; Ha, Chang-Sik; Lee, Uk
 CORPORATE SOURCE: Department of Polymer Science and Engineering, Pusan National University, Pusan, 609-735, S. Korea
 SOURCE: Macromolecular Rapid Communications (2004), 25(14), 1319-1323
 CODEN: MRCOE3; ISSN: 1022-1336
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB A $[\text{TiCl}_2(\text{salen})]$ complex and its derivs. with the formula $[\text{TiCl}_2(\text{L})]$ [$\text{L}=\text{salen}(\text{tBu})$, $\text{salen}(\text{di-Me})$, $\text{salen}(\text{di-tBu})$, $\text{salen}(\text{Me})$] were synthesized in high yield by reacting the Schiff-base ligands with TiCl_4 . $[\text{TiCl}_2(\text{salen}(\text{tBu}))]$ and $[\text{TiCl}_2(\text{salen}(\text{di-tBu}))]$ were characterized by single-crystal x-ray diffraction. Styrene polymns. carried out with $[\text{TiCl}_2(\text{salen})]$ and its derivs. co-catalyzed by MAO yielded **syndiotactic** polystyrenes. The catalytic activity and syndiospecificity were dependent on the bulkiness of the ortho substituents in the aryl ring of ligand.

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 11 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:584318 HCAPLUS Full-text
 DOCUMENT NUMBER: 141:431128
 TITLE: Characterization of the Cr^{3+} EPR center in a PbWO_4

single crystal
 AUTHOR(S): Yeom, T. H.; Lee, S. H.; Kim, I. G.
 ; Choh, S. H.; Kim, T. H.; Ro, J. H.
 CORPORATE SOURCE: Department of Physics, Chongju University, Chongju,
 360-764, S. Korea
 SOURCE: Journal of the Korean Physical Society (2004), 44(6),
 1513-1517
 CODEN: JKPSDV; ISSN: 0374-4884
 PUBLISHER: Korean Physical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB PbWO₄ single crystals doped with the Cr³⁺ ion were grown in an Ar atmospheric by the Czochralski method. The ESR spectra of the Cr³⁺ ion were recorded with an X-band ESR spectrometer at 10 K. The spectroscopic splitting tensor *g* and the 2nd-order zero field splitting tensor *D* were determined using the effective spin Hamiltonian. The rotation patterns of the Cr³⁺ spectra in the crystallog. planes, together with spin-Hamiltonian parameters, showed unequivocally that the actual local site symmetry around the Cr³⁺ ion in PbWO₄ was tetragonal. The energy levels of the ground state for an Cr³⁺ ion embedded in a PbWO₄ crystal were calculated, and it turned out that the Cr³⁺ ion substitutes for the Pb²⁺ ion in the oxygen octahedron without nearby charge compensation.

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 12 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:524393 HCAPLUS Full-text

DOCUMENT NUMBER: 141:331237

TITLE: Influence of dietary germanium biotite on egg quality and fecal noxious gas content in laying hens

AUTHOR(S): Lee, W. B.; Kim, I. H.; Hong, J. W.; Kwon, O. S.; Lee, S. H.; Min, B. J.; Jung, Y. K.

CORPORATE SOURCE: Department of Animal Resource & Science, Dankook University, S. Korea

SOURCE: Han'guk Kagum Hakhoechi (2003), 30(1), 61-66

CODEN: HKHAAE; ISSN: 1225-6625

PUBLISHER: Korean Society of Poultry Science

DOCUMENT TYPE: Journal

LANGUAGE: Korean

AB This study was conducted to investigate the effects of dietary germanium biotite supplementation on egg quality and fecal noxious gas content in laying hens. One hundred and forty-four 40-wk-old, ISA Brown layers were used in this experiment. Dietary treatments were (1) CON(control diet), (2) GB0.5(control diet + 0.5% germanium biotite), (3) GB1.0(control diet + 1.0% germanium biotite) and (4) GB1.5 (control diet + 1.5% germanium biotite). Hen-day egg production and egg shell breaking strength were not influenced by germanium biotite supplementation. However, egg weight decrease as the level of germanium biotite supplementation increased in the diets (Cubic effect, *P*<0.02). Eggshell thickness, yolk color and yolk index were not influenced by germanium biotite supplementation. Serum triglyceride concentration increased as dietary germanium biotite increased (linear effect *P*<0.02; quadratic effect, *P*<0.05). Dietary supplementation of germanium biotite reduced fecal NH₃-N concentration (*P*<0.01), propionic acid (*P*<0.01), butyric acid (*P*<0.05) and acetic acid (*P*<0.01) concns. in the feces. In conclusion, the results of this experiment indicated that dietary germanium biotite supplementation did not affect egg shell quality, but reduced fecal NH₃-N concentration

L37 ANSWER 13 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:453091 HCAPLUS Full-text

DOCUMENT NUMBER: 141:7649
 TITLE: Double metal cyanide complex catalyst for producing polyol
 INVENTOR(S): **Kim, Il; Lee, Sang-hyun**
 PATENT ASSIGNEE(S): SKC Chemicals Group Co., Ltd., S. Korea
 SOURCE: PCT Int. Appl., 17 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004045764	A1	20040603	WO 2002-KR2155	20021119
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002368366	A1	20040615	AU 2002-368366	20021119
CN 1515358	A	20040728	CN 2003-101061	20030109
PRIORITY APPLN. INFO.:			WO 2002-KR2155	A 20021119

AB Disclosed is a double metal cyanide complex catalyst for producing polyol, which is produced by using monovalent alc. and polyvalent alc. as a complexing agent. The double metal cyanide complex catalyst has advantages in that when polyol is produced by an epoxide polymerization reaction, the amount of unsatd. polyol produced is small, catalyst activation time is short, and the production yield of polyol is increased, therefore there is no need to remove remaining catalyst from polyol after polymerization reaction. Thus, 63 g zinc chloride in 231 mL water and 42 mL tert-butanol was mixed with 6.3 g potassium hexacyanocobaltate in 84 mL water and stirred at 50°, removed solid, 2 mL tert-butanol and 7 g polytetrahydrofuran were added therein and ball-milled, 200 mL tert-butanol was added therein and stirred to give a catalyst, 0.3 g of which was mixed with 70 g polypropylene glycol glycerin ether at 95°, propylene oxide was added therein and reacted to give polyoxypropylene polyol, reaction rate 3.80 g/min, hydroxy value 46.6 mg-KOH/g, and unsatn. content 0.003 mequiv/g.

L37 ANSWER 14 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:230991 HCAPLUS Full-text

DOCUMENT NUMBER: 141:23931

TITLE: Polymerizations of methyl methacrylate with late transition metal complexes combined with MAO

AUTHOR(S): **Kim, Il; Hwang, Jeong-Mi; Kim, Jae-Seong;**

Ha, Chang-Sik; Park, Dae-Won

CORPORATE SOURCE: Division of Chemical Engineering, Pusan National University, Pusan, 609-735, S. Korea

SOURCE: PMSE Preprints (2004), 90, 491

CODEN: PPMRA9; ISSN: 1550-6703

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal; (computer optical disk)

LANGUAGE: English

AB A series of bidentate Ni(II)-based α -diimine and tridentate Fe(II)-/Co(II)-based pyridyl bis-imine catalysts were evaluated on their efficiency in the MAO-assisted polymerization of Me methacrylate. All catalysts gave **syndiotactic** poly(Me methacrylate)s (PMMA), even if the structural variations of the catalyst and polymerization temperature have little influence on the microstructure of PMMA.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 15 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:10243 HCAPLUS Full-text

DOCUMENT NUMBER: 140:253962

TITLE: Polymerization of methyl methacrylate with nickel α -diimine catalysts: Effect of the methyl position in the ligand

AUTHOR(S): **Kim, Il**; Kim, Jae-sung; Han, Byeong Heui; Ha, Chang-sik

CORPORATE SOURCE: Department of Polymer Science and Engineering, Pusan National University, Pusan, 609-735, S. Korea

SOURCE: Macromolecular Research (2003), 11(6), 514-517
CODEN: MRAECT; ISSN: 1598-5032

PUBLISHER: Polymer Society of Korea

DOCUMENT TYPE: Journal

LANGUAGE: English

AB In the solution polymns. of Me methacrylate with (α -diimine)nickel(II)/methylaluminoxane (MAO), we observed effects of the position of two Me substituents in the ligand on both the activities of the catalysts and the polymer microstructure. α -Diimine nickel(II) catalysts gave **syndiotactic**-rich poly(Me methacrylate) with high mol. weight and narrow mol. weight distribution.

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 16 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:736410 HCAPLUS Full-text

DOCUMENT NUMBER: 140:375600

TITLE: Synthesis of low-monomol **polyether polyols** by using highly active catalysts and their applications to high-performance polyurethanes

AUTHOR(S): **Kim, Il**; Ahn, Jun-Tae; Park, Inha; Lee, Sanghyun

CORPORATE SOURCE: Depart. of Polymer Sci.&Eng., Pusan National University, Pusan, 609-735, S. Korea

SOURCE: Polyurethanes Conference 2002, Conference Proceedings, Salt Lake City, UT, United States, Oct. 13-16, 2002 (2002), 583-593. Alliance for the Polyurethanes Industry: Arlington, Va.
CODEN: 69EMGV

DOCUMENT TYPE: Conference

LANGUAGE: English

AB Polymns. of propylene oxide have been carried out by using double metal cyanide (DMC) catalysts based on $\text{Zn}_3[\text{Co}(\text{CN})_6]_2$. By controlling the type and the amount of complexing agent during preparation of catalyst the catalytic activity, initiation time, and the unsatn. level in **polyether polyols** could be tuned. By using polytetramethylene ether glycol (PTMEG) as a co-complexing agent together with tertiarybutyl alc., conventional complexing agent, the catalytic activity was sharply improved, the initiation time became short, and the unsatn. level was greatly lowered. The selection of the type of PTMEG was also important to maximize the effect of co-complexing agent. Various

catalysts prepared by changing the complexing agent were characterized by XPS, IR spectroscopy, and x-ray powder diffraction. ¹³C NMR anal. showed that the **polyols** have a random distribution of the configurational sequences and head-to-tail regiosequence, even if the amount of [rr] **triad** of **polyol** produced by DMC catalyst was larger than that of **polyol** by conventional KOH catalyst. The distortionless enhancement by polarization transfer anal. showed that there exist regioirregular sequences as well. The stress-strain curves of methylene diisocyanate/1,4-butanediol cured polyurethanes showed that the monol content contained in **polyol** showed a dramatic effect on the mech. properties of resulting polyurethane.

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 17 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:641012 HCAPLUS Full-text

DOCUMENT NUMBER: 140:271250

TITLE: Synthesis of ultra-low monol **polyether polyols** by multi-metal catalysts

AUTHOR(S): **Kim, Il**; Ahn, Jun-Tae; Park, Dae-Won; **Lee, Sang-Hyun**; Park, Inha

CORPORATE SOURCE: Dept. of Polymer Science and Engineering, Pusan National University, Pusan, 609-735, S. Korea

SOURCE: Studies in Surface Science and Catalysis (2003), 145 (Science and Technology in Catalysis 2002), 529-530
CODEN: SSCTDM; ISSN: 0167-2991

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Polymns. of propylene oxide (PO) have been carried out by using double metal cyanide (DMC) catalysts based on Zn₃[Co(CN)₆]₂. By using complexing agent during preparation of catalyst, the catalytic activity, initiation time, and the unsatn. level in **polyether polyols** could be tuned. The catalysts were characterized by XPS, IR spectroscopy, and x-ray powder diffraction. ¹³C NMR anal. showed that the **polyols** have a random distribution of the configurational sequences. The stress-strain curves of methylene diisocyanate/1,4-butanediol cured polyurethanes (PU) showed that the monol content of **polyol** showed a dramatic effect on the mech. properties of PU.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 18 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:592449 HCAPLUS Full-text

DOCUMENT NUMBER: 139:337284

TITLE: Effects of dietary germanium biotite in weaned, growing and finishing pigs

AUTHOR(S): Kwon, O. S.; **Kim, I. H.**; Hong, J. W.; **Lee, S. H.**; Jung, Y. K.; Min, B. J.; Lee, W. B.; Shon, K. S.

CORPORATE SOURCE: Department of Animal Resource and Science, Dankook University, 330-714, S. Korea

SOURCE: Journal of Animal Science and Technology (2003), 45(3), 355-368
CODEN: JASTCC

PUBLISHER: Korean Society of Animal Sciences and Technology

DOCUMENT TYPE: Journal

LANGUAGE: Korean

AB In Exp. 1, the effect of dietary germanium biotite on growth performance and nutrient digestibility in nursery pigs was investigated. A total of sixty crossbred pigs (initial body weight 15.09±0.18 kg) were used in this experiment. This study was carried out for 28 days. The five treatments were

control (CON; basal diet), GB0.1 (basal diet + germanium biotite 0.1%), GB0.3 (basal diet + germanium biotite 0.3%), GB0.6 (basal diet + germanium biotite 0.6%) and GB1.0 (basal diet + germanium biotite 1.0%). For the overall period, ADG and Grain/feed were not significantly different among the treatments. In Exp. 2, the effect of germanium biotite as a substitute for antibiotics in growing pigs was evaluated. A total of fifty five crossbred pigs (initial body weight 32.47 ± 0.9 kg) were used in this experiment. The three treatments were neg. control (NC: basal diet without antibiotic), pos. control (PC: basal diet + 200 ppm CTC) and GB0.3 (basal diet + germanium biotite 0.3%). Pigs fed PC (17%, 385 vs 451 g/d) and GB0.3 (14%, 385 vs 438 g/d) diets grew faster ($P < 0.05$) than pigs fed NC diet. Pigs fed PC and GB0.3 diets resulted higher ($P < 0.05$) ADFI than pigs fed CON diet. However, pigs fed GB0.3 diet had improved gain/feed compared to pigs fed NC diet ($P < 0.05$). Apparent digestibility of DM and N by pigs fed PC and GB0.3 diets were greater ($P < 0.05$) than those by pigs fed NC diet. In Exp. 3, a study was conducted to determine the effect of dietary germanium biotite on growth performance, plasma characteristics, backfat thickness and fecal ammonia gas concentration in finishing pigs. A total of seventy-two finishing pigs (initial body weight 78.56 ± 1.32 kg) were used in this experiment. The treatments included (1) Control (CON; basal diet) (2) GB1.0 (basal diet + germanium biotite 1.0%), (3) GB3.0 (basal diet + germanium biotite 3.0%). Pigs fed GB1.0 diet grew faster than pigs fed CON diet and GB0.3 diet ($P < 0.05$). Also, pigs fed CON diet showed higher ($p < 0.05$) ADFI than pigs fed GB3.0 diet. Pigs fed GB diets had improved gain/feed compared to pigs fed CON diet ($P < 0.05$). Total and VLDL concns. in plasma of pigs fed GB diet were significantly decreased compared to those in pigs fed CON diet ($P < 0.05$). However, HDL-cholesterol concentration in plasma of pigs was significantly increased compared to those in pigs fed CON diet ($P < 0.05$). Pigs fed CON diet exerted higher ($P < 0.05$) backfat thickness than pigs fed GB1.0 (5.4%, 27.19 vs 25.71 mm) and GB3.0 (16.1%, 27.19 vs 22.81 mm) diets. Feces from CON treatment were higher in fecal ammonia gas concentration than faces from pigs fed GB1.0 (64.1%, 17.00 vs 6.10 mg/kg) and GB3.0 (61.8%, 17.00 vs 6.50 mg/kg) treatments ($P < 0.05$). In conclusion, the results suggest that the dietary addition of germanium biotite into diets for nursery pigs did not affect growth performance. The results also suggest the possibility of germanium biotite to replace antibiotic in diets for growing pigs. In finishing pigs, dietary supplementation of germanium biotite was an effective means for improving growth performance and for decreasing total- and LDL+VLDL-plasma cholesterol, backfat and fecal ammonia gas concentration.

L37 ANSWER 19 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:500173 HCAPLUS Full-text

DOCUMENT NUMBER: 139:197815

TITLE: Polymerization of methyl methacrylate with Ni(II)
 α -diimine/MAO and Fe(II) and Co(II) pyridyl
 bis(imine)/MAO

AUTHOR(S): **Kim, Il**; Hwang, Jeong-Mi; Lee, Jin Kook; Ha,
 Chang Sik; Woo, Seong Ihl

CORPORATE SOURCE: Department of Polymer Science and Engineering, Pusan
 National University, Pusan, 609-735, S. Korea

SOURCE: Macromolecular Rapid Communications (2003), 24(8),
 508-511

CODEN: MRCOE3; ISSN: 1022-1336

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Polymns. of Me methacrylate with (α -diimine)nickel(II)/Me aluminoxane (MAO)
 and pyridyl bis(imine)iron(II) and (pyridyl bis(imine))cobalt(II)/MAO are
 reported. Effects of structural variation of the ligand on the activities of

catalysts and polymer microstructure are described. The catalyst systems gave *syndiotactic*-rich poly(Me methacrylate). The α -diimine system showed much higher activity than the pyridyl bis(imine) systems under similar polymerization conditions.

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 20 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:407834 HCAPLUS Full-text

DOCUMENT NUMBER: 139:196775

TITLE: Effect of dietary α -1,6-galactosidase and β -1,4-mannanase on growth performance and nutrient digestibility in nursery and growing pigs

AUTHOR(S): Kwon, O. S.; Kim, I. H.; Lee, S. H.
; Hong, J. W.; Kim, J. H.; Moon, T. H.; Lee, J. H.

CORPORATE SOURCE: Department of Animal Resource & Science, Dankook University, Cheonan, 330-714, S. Korea

SOURCE: Journal of Animal Science and Technology (2003), 45(2), 211-218
CODEN: JASTCC

PUBLISHER: Korean Society of Animal Sciences and Technology

DOCUMENT TYPE: Journal

LANGUAGE: Korean

AB For the Exp. 1, a total of sixty pigs (10.57 \pm 0.30kg average initial body weight) were used in a 15-d growth assay to determine the effect of dietary α -1,6-galactosidase and β -1,4-mannanase on growth performance and nutrient digestibility. Dietary treatments included (1) CON (corn-dried whey-SBM based diet) and (2) EC0.1 (CON diet + 0.1% enzyme complex of α -1,6-galactosidase and β -1,4-mannanase). Through the entire exptl. period, gain/feed of pigs fed the EC0.1 diet was higher (0.43 vs 0.52) than that of pigs fed the CON diet ($P<0.05$). Pigs fed the EC0.1 diet showed significant ($P<0.05$) improvement in dry matter (74.82% vs 82.41%) and nitrogen (70.59% vs 77.88%) digestibilities compared to pigs fed the CON diet. For the Exp. 2, a total of thirty six pigs (22.30 \pm 0.45kg average initial body weight) were used in a 30-d growth assay to determine the effects of dietary α -1,6-galactosidase and β -1,4-mannanase in the low energy diet on growth performance and nutrient digestibility. Dietary treatments included (1) AME (adequate ME diet), (2) AME+EC0.1 (AME diet + 0.1% enzyme complex) and (3) LME+EC0.1 (low ME diet + 0.1% enzyme complex). Through the entire exptl. period, average daily feed intake of pigs fed enzyme complex supplemented diets was higher than that of pigs fed the CON diet ($P<0.05$). Also, pigs fed the AME+EC0.1 diet showed significant ($P<0.05$) increase in ADFI (1,401g vs 1,733g) compared to pigs fed the CON diet. Pigs fed the enzyme complex supplemented diet showed significant ($P<0.05$) improvement in dry matter and nitrogen digestibilities compared to pigs fed the CON diet. In conclusion, the results obtained from these feeding trials suggest that the supplementation of α -1,6-galactosidase and β -1,4-mannanase was an effective means for improving growth performance and dry matter and nitrogen digestibilities in nursery and growing pigs.

L37 ANSWER 21 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:372968 HCAPLUS Full-text

DOCUMENT NUMBER: 139:120706

TITLE: A study on the paste boronizing treatment of 12%Cr steel for steam turbine nozzle and high temperature surface properties

AUTHOR(S): Cho, J. H.; Son, G. S.; Yoon, J. H.; Kim, H. S.;
Lee, S. H.; Byon, E.; Lee, E. Y.; Lee, S.
H.; Kim, I. S.

CORPORATE SOURCE: Department of Metallurgy & Materials Science, Changwon University, Changwon, 641-773, S. Korea
SOURCE: Taehan Kumsok, Chaeryo Hakhoechi (2003), 41(2), 131-139
CODEN: TKHABB
PUBLISHER: Korean Institute of Metals and Materials
DOCUMENT TYPE: Journal
LANGUAGE: Korean
AB 12% Cr steel used for a nozzle in a steam turbine was paste-boronized and its surface properties at high temperature were evaluated. A typical interfacial serrated tooth structure, which consisted of an outer layer of FeB and an inner layer of Fe₂B, was observed in the boronized layer of the specimen and its activation energy was 286.7 kJ/mol. Cracks due to the difference of thermal expansion coefficient and brittleness of the FeB layer were observed. Voids were also observed at tip area of the tooth structure. Weight of the specimen exposed at 740 °C increased rapidly from the initial stage of oxidation. Iron oxide was mixed in chromium oxide at outer layer of the oxidized specimen, but chromium oxide and molybdenum were mixed in iron oxide at inner layer. The boronized specimen has shown excellent erosion resistance up to 20 times higher than that of a non-treated specimen.

L37 ANSWER 22 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:341219 HCAPLUS Full-text
DOCUMENT NUMBER: 139:117765
TITLE: Polymerization of propylene oxide by using double metal cyanide catalysts and the application to polyurethane elastomer
AUTHOR(S): Kim, Il; Ahn, Jun-Tae; Ha, Chang Sik; Yang, Chul Sik; Park, Inha
CORPORATE SOURCE: Department of Polymer Science and Engineering, Pusan National University, Jangjeon-dong, Geumjeong-gu, Pusan, 609-735, S. Korea
SOURCE: Polymer (2003), 44(11), 3417-3428
CODEN: POLMAG; ISSN: 0032-3861
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Polymns. of propylene oxide have been carried out by using double metal cyanide (DMC) catalysts based on Zn₃[Co(CN)₆]₂. By controlling the type and the amount of complexing agent during preparation of catalyst the catalytic activity, initiation time, and the unsatn. level in **polyether polyols** could be tuned. Various catalysts prepared by changing the complexing and co-complexing agents were characterized by XPS, IR spectroscopy, and X-ray powder diffraction. Highly active catalyst prepared by choosing a polytetramethylene ether glycol as a co-complexing agent resulted in polyoxypropylenes (POP) with low very low unsatn. level (0.003-0.006 meq/g) and with narrow mol. weight distribution (MWD = 1.02-1.04). The active sites of DMC-catalyzed polymerization of propylene oxide have both cationic and coordinative characters. Anal. of ¹³C NMR showed that the **polyols** have a random distribution of the configurational sequences and head-to-tail regio sequence, even if the amount of [rr] **triad** of **polyol** produced by DMC catalyst was larger than that of **polyol** by conventional KOH catalyst. The distortionless enhancement by polarization transfer anal. showed that there exist regio irregular sequences as well. The stress-strain curves of methylene diisocyanate/1,4-butanediol cured POP-based polyurethane elastomers showed that the unsatn. content contained in POP showed a dramatic effect on the mech. properties.

REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 23 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:189878 HCAPLUS Full-text

DOCUMENT NUMBER: 138:410887

TITLE: Electron paramagnetic resonance characterization of Cr³⁺ impurities in a β -Ga₂O₃ single crystal

AUTHOR(S): Yeom, T. H.; Kim, I. G.; Lee, S. H.; Choh, S. H.; Yu, Y. M.

CORPORATE SOURCE: Department of Physics, Chongju University, Chongju, 360-764, S. Korea

SOURCE: Journal of Applied Physics (2003), 93(6), 3315-3319
CODEN: JAPIAU; ISSN: 0021-8979

PUBLISHER: American Institute of Physics

DOCUMENT TYPE: Journal

LANGUAGE: English

AB β -Ga₂O₃ single crystals doped with the Cr³⁺ ion were grown in an O₂ atmosphere using the floating zone method. EPR spectra of the Cr³⁺ ion were recorded with an X band EPR spectrometer at 20°. The rotation patterns of Cr³⁺ spectra in the crystallog. planes together with spin-Hamiltonian parameters showed unequivocally that the actual local site symmetry of the Cr³⁺ ion in β -Ga₂O₃ is not orthorhombic, as previously reported, but monoclinic. The spectroscopic splitting tensor g and the zero-field splitting parameters B_{kq} s were determined with an effective spin Hamiltonian. The Cr³⁺ ions replace Ga³⁺ ions in O octahedra rather than in O tetrahedra. The energy levels of the ground state of a Cr³⁺ ion embedded in the β -Ga₂O₃ crystal were calculated

REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 24 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:20716 HCAPLUS Full-text

DOCUMENT NUMBER: 138:254320

TITLE: Influence of dietary carbohydrase on egg quality and nutrient digestibility in laying hens

AUTHOR(S): Min, B. J.; Kim, I. H.; Hong, J. W.; Moon, T. H.; Lee, J. H.; Han, Y. K.; Kwon, O. S.; Lee, S. H.; Lee, W. B.

CORPORATE SOURCE: Department of Animal Resource & Science, Dankook University, S. Korea

SOURCE: Han'guk Kagum Hakhoechi (2002), 29(1), 19-23
CODEN: HKHAAE; ISSN: 1225-6625

PUBLISHER: Korean Society of Poultry Science

DOCUMENT TYPE: Journal

LANGUAGE: Korean

AB This study was conducted to investigate the effects of dietary carbohydrase (multi-enzyme: α -galactosidase and mannanase) on egg quality and nutrient digestibility in laying hens. One hundred forty four, 46-wk-old, ISA Brown com. layers were used in a 28-d feeding trial after a 7-d adjustment period. Dietary treatments were (1) CON(basal diet), (2) ME 0.1(basal diet + 0.1% multi-enzyme), (3) ME 0.2 (basal diet + 0.2% multi-enzyme). For overall periods, hen-day egg production, egg weight, egg shell breaking strength and egg shell thickness were not influenced by the multi-enzyme. As the adding level of multi-enzyme increased in the diet, egg yolk color and egg yolk index tended to increase with significant differences. Digestibility of DM was not affected by multi-enzyme. However, digestibility of N increased significantly as the concentration of multi-enzyme in the diet was increased. In conclusion, supplemental carbohydrase in laying hen diet may have some roles in improving the egg yolk color and N digestibility.

L37 ANSWER 25 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:20712 HCAPLUS Full-text

DOCUMENT NUMBER: 138:254374

TITLE: Influence of dietary activated coconut charcoal on egg quality and plasma cholesterol level in laying hens

AUTHOR(S): Min, B. J.; **Kim, I. H.**; Lee, W. B.; Hong, J. W.; Kim, J. H.; Kwon, O. S.; **Lee, S. H.**

CORPORATE SOURCE: Department of Animal Resource & Science, Dankook University, S. Korea

SOURCE: Han'guk Kagum Hakhoechi (2002), 29(1), 13-18

CODEN: HKHAAE; ISSN: 1225-6625

PUBLISHER: Korean Society of Poultry Science

DOCUMENT TYPE: Journal

LANGUAGE: Korean

AB This study was conducted to investigate the effects of dietary activated coconut charcoal (ACC) on performance, egg quality and plasma cholesterol level in laying hens. One hundred forty four, 47-wk-old, ISA Brown com. layers were used in a 28-d feeding. trial after a 7-d adjustment period. Four dietary treatments were 0, 0.5, 1.0 and 1.5% levels of ACC supplemented to a corn-soybean meal basal diet. Egg production was significantly increased as the level of ACC was increased. However, egg weight was significantly decreased by the addition of ACC in diets. Egg shell breaking strength tended to decrease as the level of ACC increased, however, no significance was found in this respect. As the level of ACC increased, egg shell thickness decreased significantly. Yolk color tended to increase by the addition of ACC. Egg yolk index were significantly increased by the addition of ACC in the diet. No significant difference was found among four treatments in total cholesterol, HDL cholesterol, and LDL+VLDL cholesterol concns. in plasma. In conclusion, dietary supplementation of ACC to layer diets could be used to increase egg production, and yolk index.

L37 ANSWER 26 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:20708 HCAPLUS Full-text

DOCUMENT NUMBER: 138:254287

TITLE: Influence of dietary supplemental germanium colloid on egg quality and immune response in layers

AUTHOR(S): Hong, J. W.; **Kim, I. H.**; Kwon, O. S.; **Lee, S. H.**; Min, B. J.; Lee, W. B.

CORPORATE SOURCE: Department of Animal Resource and Science, Dankook University, S. Korea

SOURCE: Han'guk Kagum Hakhoechi (2002), 29(1), 7-12

CODEN: HKHAAE; ISSN: 1225-6625

PUBLISHER: Korean Society of Poultry Science

DOCUMENT TYPE: Journal

LANGUAGE: Korean

AB This study was conducted to investigate the effects of feeding germanium colloid(GC) on the egg quality and immune response in laying hens. One hundred forty four layers, 32-wk-old ISA Brown, were used in a 40-d exptl. assay with a 7-d adjustment period. Dietary treatments included (1) control (basal diet; CON), (2) 0.5ppm GC (basal diet + 0.5ppm germanium), (3) 1.0ppm GC (basal diet + 1.0 ppm germanium). For overall periods, hen-day egg production tended to be increased as the concentration of GC in the diet was increased with significant difference (linear effect, $P<0.01$). Laying hens fed the 0.5ppm GC diet were significantly ($P<0.01$) lower in egg shell breaking strength than laying hens fed CON or 1.0 ppm GC diets. Egg shell thickness and yolk color were not influenced by GC supplementation. Laying hens fed the 1.0ppm GC diet were higher in egg yolk index than laying hens fed CON and 0.5ppm GC diets with significant difference (quadratic effect, $P<0.02$). As adding level of germanium colloid increased in the diet, total serum

cholesterol and triglyceride tended to be decreased. However, the effect of GC supplementation did not show significant in the levels of total serum cholesterol and triglyceride. Also, HDL- and LDL+VLDL-cholesterol in serum were not statistically different among the treatments. Red blood cell and white blood cell count in blood tended to be increased as the concentration of GC in the diets was increased with significant difference ($P < 0.01$). Hematocrit concentration in blood was successfully increased by supplementation of GC ($P < 0.01$). In conclusion, although egg quality was not influenced by GC supplementation, immune status was improved in laying hens.

L37 ANSWER 27 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:907149 HCAPLUS Full-text

DOCUMENT NUMBER: 138:5034

TITLE: Double metal cyanide catalyst ligated with monovalent alcohol and polyoxyalkylene for producing polyoxyalkylenes by epoxide polymerization

INVENTOR(S): **Kim, Il; Lee, Sang Hyun**

PATENT ASSIGNEE(S): SK Evertec Co., Ltd., S. Korea

SOURCE: U.S. Pat. Appl. Publ., 7 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002177523	A1	20021128	US 2002-112843	20020329
US 6627575	B2	20030930		
KR 2002080824	A	20021026	KR 2001-20627	20010418
PRIORITY APPLN. INFO.:			KR 2001-20627	A 20010418

AB Disclosed is a double metal cyanide complex catalyst for producing polyol, which is produced by using monovalent alc. and polyvalent alc. as a complexing agent. The double metal cyanide complex catalyst has advantages in that when polyol is produced by an epoxide polymerization reaction, the amount of unsatd. polyol produced is small, catalyst activation time is short, and the production yield of polyol is increased, therefore there is no need to remove remaining catalyst from polyol after polymerization reaction.

L37 ANSWER 28 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:759254 HCAPLUS Full-text

DOCUMENT NUMBER: 138:114952

TITLE: Positive resist for KrF excimer laser lithography

AUTHOR(S): Park, S. J.; **Kim, I. H.**; Kang, Y. J.; Lee, H.; **Lee, S. H.**; Choi, S. J.

CORPORATE -SOURCE: Department of Chemistry, Hanyang University, Seoul, 133-791, S. Korea

SOURCE: Journal of Vacuum Science & Technology, B: Microelectronics and Nanometer Structures (2002), 20(5), 2108-2112

CODEN: JVTBD9; ISSN: 0734-211X

PUBLISHER: American Institute of Physics

DOCUMENT TYPE: Journal

LANGUAGE: English

AB In order to develop a new pos.-tone, chemical amplified photoresist for 248 nm lithog., a copolymer containing acrylic silicon moiety was synthesized. The copolymer of 1,3-bis(trimethylsilyl)isopropyl methacrylate and 4-hydroxystyrene was prepared by free radical polymerization. The polymer

structure, properties and acid catalyzed deprotection were evaluated by ¹H NMR, Fourier transform IR, UV, thermogravimetric anal. and gel permeation chromatog. This polymer is thermally stable up to 150 ° and is suitably transparent at the KrF laser output wavelength (248 nm). The lithog. evaluation shows the capability of 0.28 μm resolution using a KrF excimer laser stepper.

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 29 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2002:504821 HCAPLUS Full-text
 DOCUMENT NUMBER: 137:63629
 TITLE: Method of homo- or co-polymerization of α-olefin
 INVENTOR(S): Ro, Ki-Su; **Kim, Il-Seop**; Yang, Chun-Byung;
 Shin, Moon-Young
 PATENT ASSIGNEE(S): Samsung General Chemicals Co., Ltd., S. Korea
 SOURCE: PCT Int. Appl., 23 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002051881	A1	20020704	WO 2001-KR794	20010516
W:			AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW	
RW:			GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG	
KR 2002054051	A	20020706	KR 2000-82663	20001227
EP 1360210	A1	20031112	EP 2001-932347	20010516
R:			AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR	
US 2002120079	A1	20020829	US 2001-871253	20010530
US 6559250	B2	20030506		
JP 2002212219	A2	20020731	JP 2001-197021	20010628
TW 555770	B	20031001	TW 2001-90118797	20010801
PRIORITY APPLN. INFO.:			KR 2000-82663	A 20001227
			WO 2001-KR794	W. 20010516
			TH 2001-66339	A 20010618
			JP 2001-197021	A 20010628

AB Present invention relates to a method of homo- or co-polymerization of α-olefin by using a catalyst system which comprises the following components: (1) a solid complex Ti catalyst produced by a production method comprising the following steps: (a) preparing a Mg compound solution by dissolving a Mg halide compound and a compound of Group IIIA of the Periodical Table in a solvent of mixture of cyclic ester, ≥1 types of alc., a P compound, and an organic silane; (b) precipitating the solid particles by reacting the Mg compound solution with a transitional metal compound, a Si compound, a Sn compound, or the mixture thereof; and (c) reacting the precipitated solid particles with a Ti compound and electron donors; (2) an organometallic compound of metal of Group IIIA of the Periodical Table; and (3) external electron donors comprising ≥3 types of organo-Si compds., wherein the melt flow rates of the homopolymers obtained from polymerization by individually

using the organo-Si compds. under the same polymerization conditions are ≤ 5 , 5-20, and 20 or higher, resp. According to the present invention, it has an advantage of obtaining polymers of broad mol. weight distribution with high H reactivity and melt flow rates while maintaining high **stereoregularity** and yields for olefin homo- or co-polymers during homo- or co-polymerization of α -olefin having ≥ 3 C atoms.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 30 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:731494 HCAPLUS Full-text

DOCUMENT NUMBER: 136:20948

TITLE: Molecular interactions of soaked nonionic dye in ionomer films

AUTHOR(S): **Lee, S. H.**; Lee, W. S.; Lee, S. J.; Kim, S. S.; **Kim, I.**; Song, K.; Landis, F. A.; Moore, R. B.

CORPORATE SOURCE: College of Environment and Applied Chemistry, Kyung Hee University, Yongin, 449-701, S. Korea

SOURCE: Polymer (Korea) (2001), 25(5), 671-678

CODEN: POLLDG; ISSN: 0379-153X

PUBLISHER: Polymer Society of Korea

DOCUMENT TYPE: Journal

LANGUAGE: Korean

AB Sodium and zinc salts of poly(ethylene-co-methacrylic acid) ionomers consist of three phases, i.e. ionic aggregates, amorphous, and crystalline phases. Nile red dye mols. applied as a methanolic solution are located near the amorphous phase or ionic aggregates within the ionomer films. Depending on the location of the mols. in the ionomer film, they are under influence of dispersion forces (ethylene parts), polar forces (acid parts), and ionic dipole (ionic aggregates) interactions. The UV/visible absorption peak of the dye under the dispersion force is found at near 500 nm, for the dye under the polar force effect 525 nm, and 550 and 610 nm for the dyes under Na⁺ and Zn²⁺ ionization effects, resp. Since the divalent Zn²⁺ ion has a larger ionic dipole than the monovalent Na⁺ ion, the larger red-shift of the absorption band due to the ionic dipole interaction is observed for Zn²⁺ counter ion.

L37 ANSWER 31 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:683542 HCAPLUS Full-text

DOCUMENT NUMBER: 136:117833

TITLE: Effects of Phytezyme supplementation on the growth performance and nutrient digestibility in growing pigs

AUTHOR(S): Hong, J. W.; **Kim, I. H.**; Kwon, O. S.; **Lee, S. H.**; Bae, H. D.; Kang, S. J.; Yang, U. M.

CORPORATE SOURCE: Department of Animal Resource & Science, Dankook University, Cheonan, 330-714, S. Korea

SOURCE: Asian-Australasian Journal of Animal Sciences (2001), 14(10), 1440-1443

CODEN: AJASEL; ISSN: 1011-2367

PUBLISHER: Asian-Australasian Journal of Animal Sciences

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Forty 8 Duroc+Yorkshire+Landrace swine (15.2 \pm 0.3 kg average initial BW) were used conducted to evaluate the effects dietary phytase (Phytezyme, WOOJIN, Co. Ltd) supplementation on the growth performance and nutrient digestibility in growing swine. There were 3 swine per pen and 4 pens per treatment. Treatments were 1) Con (corn-wheat-SBM), 2) PE0.1 (low-P diet+0.1% Phytezyme),

3) PE0.2 (low-P diet+0.2% Phytezyme), 4) PE0.3 (low-P diet+0.3% Phytezyme). During d 0 to 28, average daily gain was not significantly different among the treatments. Pigs fed PE0.3 diet significantly decreased ($p<0.05$) their average daily feed intake compared to swine fed Con diet. Also, gain/feed in swine fed PE0.1 and PE0.3 diet was improved ($p<0.05$) compared to swine fed Con and PE0.2 diet ($p<0.05$). For d 28 to 56, swine fed PE0.2 diet grew significantly faster ($p<0.05$) than swine fed Con and PE0.1 diet. Gain/feed was greater ($p<0.05$) for PE0.2 and PE0.3 treatments than for Con. For overall period, average daily gain was increased ($p<0.05$) by the addition of 0.2% Phytezyme compared with Con. Gain/feed was significantly improved ($p<0.05$) by supplementation of PE0.3. Pigs fed PE0.2 showed increased DM and N digestibilities compared to swine fed other treatments. Supplemented diets PE0.2 and PE0.3 improved ($p<0.05$) the apparent digestibility of Ca and P compared to other treatments. In conclusion, the results obtained from these feeding trials suggest that the Phytezyme supplementation of diets for growing-finishing swine had improved growth performance and nutrient availability.

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 32 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:682445 HCAPLUS Full-text

DOCUMENT NUMBER: 136:117842

TITLE: Effects of yucca extract and (or) far infrared emitted materials supplementation on the growth performance, serum characteristics and ammonia production of growing and finishing pigs

AUTHOR(S): Hong, J. W.; Kim, I. H.; Moon, T. H.; Kwon, O. S.; Lee, S. H.; Kim, Y. G.

CORPORATE SOURCE: Department of Animal Resource & Science, Dankook University, Cheonan, 330-714, S. Korea

SOURCE: Asian-Australasian Journal of Animal Sciences (2001), 14(9), 1299-1303

CODEN: AJASEL; ISSN: 1011-2367

PUBLISHER: Asian-Australasian Journal of Animal Sciences

DOCUMENT TYPE: Journal

LANGUAGE: English

AB For the Exp. 1, a total of fifty four crossbred [(Duroc+Yorkshire)+Landrace] pigs (77.67±1.42 kg average initial BW) were used in a 41-d growth assay to determine the effects of yucca extract supplementation on growth performance, nutrient digestibility and serum characteristics of finishing pigs. Dietary treatments included 1) Control (basal diet), 2) YE60 (basal diet+60 ppm yucca extract), 3) YE120 (basal diet+120 ppm yucca extract). Average daily gain was not improved by yucca extract supplementation during the whole exptl. period (d 0 to 41). Pigs fed control diet showed the best average daily gain. Pigs fed control and YE120 diets tended to increase average daily feed intake compared with pigs fed YE60 diet (quadratic effect, $p<0.0001$). Gain/feed with control treatment was significantly better than the YE groups (linear effect, $p<0.071$). However, there was no significant difference among levels of yucca extract ($p>0.10$). Apparent digestibility of dry matter in pigs fed yucca extract were greater than for pigs fed control diets (linear effect, $p<0.017$). Pigs fed YE120 tended to have higher digestibility of nitrogen than pigs fed the control diets (linear effect, $p<0.019$). There were no significant differences in Total-, HDL- and LDL-cholesterol concns. of serum, and the blood urea nitrogen (BUN) concns. in serum was not influenced by the yucca extract supplementation ($p>0.10$). For the Exp. 2, fifteen [(Duroc+Yorkshire)+Landrace] pigs (25.00±0.50 kg average initial BW) were used in a 30-d metabolism experiment to determine the effects of yucca extract supplementation on fecal ammonia gas production. Treatments were: 1) Control (basal diet); 2) YE (basal diet+150 ppm yucca extract); 3) BD (basal diet+100

ppm Bio-Dr; yucca extract+far IR emitted materials). Fecal ammonia gas production differences between d 0 and d 30 were significantly reduced ($p < 0.05$) by feeding BD compared to control and YE. Also, when pigs were fed the diet with YE tended to be decreased ammonia gas production compared to pigs fed the control diet without significant differences ($p > 0.05$). There were no differences for DM and N digestibility among pigs fed the treatment diets. In conclusion, yucca and (or) far IR radiol. materials can be used to make environment-friendly diets for growing-finishing pigs without neg. effects on growth performance and nutrient digestibility.

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 33 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:412742 HCAPLUS Full-text

DOCUMENT NUMBER: 135:60622

TITLE: Optimum particle size of corn for growth performance, nutrient digestibility and feed cost in pigs

AUTHOR(S): Lee, S. H.; Kim, I. H.; Hong, J.

W.; Kwon, O. S.

CORPORATE SOURCE: Department of Animal Resource & Science, Dankook University, Cheonan, Choognam, 330-714, S. Korea

SOURCE: Journal of Animal Science and Technology (2001), 43(2), 185-192

CODEN: JASTCC

PUBLISHER: Korean Society of Animal Sciences and Technology

DOCUMENT TYPE: Journal

LANGUAGE: Korean

AB In Experiment 1, 72 nursery piglets (Duroc + Yorkshire + Landrace, average initial body weight 12.36 ± 0.59 kg) were fed diets with corn ground in hammer mill with 3 mm (fine particle) or 4.5 mm (coarse particle) screens. After 28 days on the diets, the piglets fed the fine corn diet had higher average daily gain (ADG) than pigs fed the coarse corn diet, whereas not much difference in average daily feed intakes (ADFI) was found. The gain/feed ratio (G/F) and dry matter and N digestibility in piglets fed the fine corn diet were improved compared to pigs fed the coarse corn diet. In Experiment 2, 48 finishing pigs (Duroc + Yorkshire + Landrace, average initial body weight 47.54 ± 0.69 kg) were used in a 28-day growth study. The corn was ground in hammer mill with 3 mm (fine particle) or 6 mm (coarse particle) screens. The ADG, ADFI, and G/F were not much different between the dietary treatments. The dry matter and N digestibility and intake of digestible nutrients were greater in pigs fed the fine corn diet vs. the coarse diet. Pigs fed the fine corn diet had decreased fecal nutrient excretion compared to pigs fed the coarse corn diet. The total feed cost per kg weight gain was higher (921 vs. 841 won) with the coarse than with the fine corn diet. Thus, fine corn particle size led to greater growth performance and nutrient digestibility than coarse particle size in nursery and finishing pigs.

L37 ANSWER 34 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:412741 HCAPLUS Full-text

DOCUMENT NUMBER: 135:60621

TITLE: Effects of egg yolk antibodies to replace antibiotic in segregated early-weaned pigs

AUTHOR(S): Hong, J. W.; Kim, I. H.; Kwon, O. S.;

Lee, S. H.; Kim, J. W.

CORPORATE SOURCE: Department of Animal Resource & Science, Dankook University, Chonan, 330-714, S. Korea

SOURCE: Journal of Animal Science and Technology (2001), 43(2), 177-184

CODEN: JASTCC

PUBLISHER: Korean Society of Animal Sciences and Technology
 DOCUMENT TYPE: Journal
 LANGUAGE: Korean

AB The effects of egg yolk antibodies (EYA) from chickens immunized with fimbrial antigens from Escherichia coli strains K88 and 987P on growth performance, nutrient digestibility, and fecal scores were examined in 72 segregated early-weaned piglets (5.04±0.09 kg average initial body weight at 12 days of age). The dietary treatments included neg. control (NC, basal diet with no antibiotic), pos. control (PC, basal diet with 0.5% Apralan 20), EYA0.1 (basal diet with 0.1% EYA), EYA0.2 (basal diet with 0.2% EYA), EYA0.3 (basal diet with 0.3% EYA), and EYA0.4 (basal diet with 0.4% EYA). After 4 days of feeding the diets, all pigs were challenged with K88 and 987P at doses of 6.0 + 109 and 1.2 + 1010 cfu, resp. At 2 and 4 days after the challenge the fecal scores (0 normal, 1 soft feces, 2 mild diarrhea, 3 severe diarrhea) were determined. Pigs fed the EYA and PC diets had greater average daily gains and gain/feed ratios than pigs fed the NC diet. The apparent digestibilities of dry matter and N by pigs fed EYA were not much improved compared to pigs fed PC. Pigs fed the EYA (fecal score 0.8) and PC (fecal score 1.0) diets tended to decrease the incidence of diarrhea on day 2 after the challenges compared to pigs fed the NC diet (fecal score 1.8). Thus, EYA can be used to replace feed antibiotics in segregated early-weaned piglets without neg. effects on growth performance, nutrient digestibility, and fecal bacterial scores.

L37 ANSWER 35 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:235173 HCAPLUS Full-text

DOCUMENT NUMBER: 135:13376

TITLE: Electron paramagnetic resonance studies of Mn²⁺ ions in β -Ga₂O₃ single crystal

AUTHOR(S): **Kim, I. G.**; Yeom, T. H.; **Lee, S. H.**
 ; Yu, Y. M.; Shin, H. W.; Choh, S. H.

CORPORATE SOURCE: Department of Physics, Chongju University, Chongju, 360-764, S. Korea

SOURCE: Journal of Applied Physics (2001), 89(8), 4470-4475
 CODEN: JAPIAU; ISSN: 0021-8979

PUBLISHER: American Institute of Physics

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A Mn²⁺ ion-doped β -Ga₂O₃ single crystal was grown by using a floating zone method. By employing an X-band EPR spectrometer, Mn²⁺ EPR spectra were recorded at room temperature. The rotation patterns in the crystallog. planes together with spin-Hamiltonian parameters of Mn²⁺ show unequivocally that the actual local site symmetry of the Mn²⁺ ion is monoclinic. A Mn²⁺ ion lies on a site with a 2-fold rotation symmetry, parallel to the monoclinic axis of the crystal. The spectroscopic splitting tensor g, zero-field splitting parameters Bk_qs, and the hyperfine tensor A are determined with the effective spin Hamiltonian. The Mn²⁺ ion lies at only one site, the substitutional site for the Ga³⁺ ion in the oxygen octahedron rather than in tetrahedron. Energy levels of the ground state for a Mn²⁺ ion embedded in the β -Ga₂O₃ crystal are calculated.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 36 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:711368 HCAPLUS Full-text

DOCUMENT NUMBER: 134:29724

TITLE: Polymerization of α -olefin catalyzed by rac-(EBI)M(NMe₂)₂(M=Zr, Hf)/AIR₃/[Ph₃C] [B(C₆F₅)₄]

AUTHOR(S): **Kim, Il**; Choi, Chang Soo; Kim, Ki Tae

CORPORATE SOURCE: Department of Chemical Engineering, University of
Ulsan, Ulsan, 680-749, S. Korea
SOURCE: Polymer (Korea) (2000), 24(5), 646-655
CODEN: POLLDG; ISSN: 0379-153X
PUBLISHER: Polymer Society of Korea
DOCUMENT TYPE: Journal
LANGUAGE: Korean

AB Polymns. of higher α -olefins were carried out in toluene by using highly isospecific catalyst, $\text{rac}-(\text{EBI})\text{M}(\text{NMe}_2)_2$ ($\text{EBI}=1,2\text{-ethylenebis-(1-indenyl)}$; $\text{M}=\text{Zr}(\text{rac-1})$; $\text{M}=\text{Hf}(\text{rac-2})$) in the presence of $\text{Al}(\text{i-Bu})_3/[\text{Ph}_3\text{C}][\text{B}(\text{C}_6\text{F}_5)_4]$. The polymerization of high α -olefin showed high activity and similar polymerization behavior. The polymerization activity was affected by both monomer size and lateral size of polymer chain. The conversion of monomer to polymer decreases with the increased lateral size in the order of 1-pentene>1-hexene>1-octene>1-decene. The same dependences of melting behavior and intrinsic viscosity of polyolefin on lateral size were observed according to the results obtained by differential scanning calorimetry and intrinsic viscosity. All poly(α -olefin)s showed very high isotacticity(*triad*) and the isotacticity increases in the order of poly(1-pentene)<poly(1-hexene)<poly(1-octene)<poly(1-decene). ^1H NMR and Raman spectra anal. showed that chain transfer to cocatalyst, which generates saturated Me groups, is a main chain termination. The B-hydride eliminations, which generate unsatd. vinylidene, tri-substituted, and vinylene end group, are found to be minor chain terminations.

L37 ANSWER 37 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:401028 HCAPLUS Full-text

DOCUMENT NUMBER: 133:184520

TITLE: The comparison on the performance of a gamma-ray spectrometer with the variation of Pt(Au)/CdZnTe/Pt(Au) interface

AUTHOR(S): **Lee, S. H.; Kim, I. J.;** Choi, Y. J.; Hong, J. K.; Lee, H. K.; Chung, Y. C.; Yi, Y.; Kim, S. U.; Park, M. J.

CORPORATE SOURCE: Department of Physics, Korea University, Seoul, 136-701, S. Korea

SOURCE: Journal of Crystal Growth (2000), 214/215, 1111-1115
CODEN: JCRGAE; ISSN: 0022-0248

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB $\text{Cd}_{1-x}\text{Zn}_x\text{Te}$ grown by high-pressure Bridgman method (HPB) is a good candidate for gamma-ray detection material. The metal contacting conditions are very important for the performance of gamma-ray detector. Therefore, it is essential to find proper contact technol. For these purposes, various contact methods (electroless deposition, thermal vacuum evaporation) and (Au, Pt) are attempted. From the measurement of current-voltage characteristics, gamma-ray spectroscopy and auger electron spectroscopy (AES), the phys. properties of metal contact on the CdZnTe are analyzed and contact methods compared with one another. Electroless Pt deposition has better properties than others in many respects.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 38 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:257726 HCAPLUS Full-text

DOCUMENT NUMBER: 133:17876

TITLE: Higher α -olefin polymerizations catalyzed by

rac-Me₂Si(1-C₅H₂-2-CH₃-4-tBu)
)₂Zr(NMe₂)₂/Al(iBu)₃/[Ph₃C][B(C₆F₅)₄]
AUTHOR(S): **Kim, Il**; Zhou, Jia-Min; Chung, Hoeil
CORPORATE SOURCE: Department of Chemical Engineering, The University of
Ulsan, Ulsan, 680-749, S. Korea
SOURCE: Journal of Polymer Science, Part A: Polymer Chemistry
(2000), 38(9), 1687-1697
CODEN: JPACEC; ISSN: 0887-624X
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Higher α -olefins, i.e., 1-pentene, 1-hexene, 1-octene, and 1-decene, were polymerized at 30° in toluene using highly isospecific rac-Me₂Si(1-C₅H₂-2-Me-4-tBu)₂Zr(NMe₂)₂ (rac-1) in the presence of Al(iBu)₃/[CPh₃][B(C₆F₅)₄] as a cocatalyst formulation. Both the bulkiness of the monomer and the lateral size of the polymer chain influenced polymerization activity. A larger lateral of the polymer chain opens the π -ligands of the active site wider than a shorter lateral and favors the insertion of monomer, while insertion of a larger size monomer is more difficult than that of a smaller monomer due to steric hindrance. Highly isotactic poly(α -olefin)s of high mol. weight were produced. The mol. weight decreased from polypropylene to poly(1-hexene), and then increased from poly(1-hexene) to poly(1-decene). The isotacticity (as [mm] **triad**) of the polymer decreased with increased lateral size in the order: poly(1-pentene) > poly(1-hexene) > poly(1-octene) > poly(1-decene). The similar dependence of the lateral size on the m.p. of the polymer was recorded by differential scanning calorimetry (DSC). ¹H NMR anal. showed that a vinylidene group resulting from β -H elimination and saturated Me groups resulting from chain transfer to cocatalyst are the main end groups of polymer chains. The vinylidene and internal double bonds are also identified by Raman spectroscopy.

REFERENCE COUNT: 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 39 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:58379 HCAPLUS Full-text
DOCUMENT NUMBER: 132:188707
TITLE: Electron paramagnetic resonance study of the Eu²⁺ ion
in a PbWO₄ single crystal
AUTHOR(S): Yeom, T. H.; **Kim, I. G.**; **Lee, S. H.**
; Choh, S. H.; Kim, T. H.; Ro, J. H.
CORPORATE SOURCE: Department of Physics, Chongju University, Chongju,
360-764, S. Korea
SOURCE: Journal of Applied Physics (2000), 87(3), 1424-1428
CODEN: JAPIAU; ISSN: 0021-8979
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The ESR of the Eu²⁺ ion in a PbWO₄ single crystal, grown by the Czochralski method, was studied using an X-band spectrometer. The rotation patterns in the crystallog. planes together with spin-Hamiltonian parameters of Eu²⁺ show that the local site symmetry of the Eu²⁺ ion is tetragonal. The spectroscopic splitting tensor g, zero-field splitting parameters B_{kq}, and hyperfine tensor A are determined with the effective spin Hamiltonian. Energy levels of the ground state for Eu²⁺ embedded in the PbWO₄ crystal are calculated. The Eu²⁺ ion substitutes for the Pb²⁺ ion without any charge compensation.

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 40 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1999:554770 HCAPLUS Full-text
DOCUMENT NUMBER: 131:286891
TITLE: Synthesis and characterization of soluble random copolyimides
AUTHOR(S): **Kim, I. C.**; Tak, T. M.
CORPORATE SOURCE: Division of Biological Resources and Materials Engineering, College of Agriculture and Life Science, Seoul National University, Suwon, 441-744, S. Korea
SOURCE: Journal of Applied Polymer Science (1999), 74(2), 272-277
CODEN: JAPNAB; ISSN: 0021-8995
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Random copolyimides with different proportions of a diamine component were prepared from diamines with various dianhydrides via thermal imidization of polyamic acid intermediate at 260°. The extent of imidization of poly(amic acid)s was monitored at various temps. by IR spectroscopy. The homopolyimide based on bis[4-(3-aminophenoxy)phenyl]sulfone and pyromellitic dianhydride is the only one that is soluble. By changing the composition of bis[4-(3-aminophenoxy)phenyl]-sulfone and other diamines with pyromellitic dianhydride in N-methyl-2-pyrrolidone, soluble random copolyimides were prepared. By random copolymerization, the thermal properties and viscosity of homopolyimides could be controlled. All the soluble polyimides prepared are amorphous because of lack of **stereoregularity**.

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 41 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1999:520054 HCAPLUS Full-text
DOCUMENT NUMBER: 132:76468
TITLE: Morphology and synaptic connectivity of nitric oxide synthase-immunoreactive neurons in the guinea pig retina
AUTHOR(S): Oh, S.-J.; Kim, Hyung-Il; **Kim, I.-B.**; Kim, Keun-Young; Huh, W.; Chung, Jin-Woong; Chun, M.-H.
CORPORATE SOURCE: Department of Anatomy, College of Medicine, The Catholic University of Korea, Seoul, 137-701, S. Korea
SOURCE: Cell & Tissue Research (1999), 297(3), 397-408
CODEN: CTSRCS; ISSN: 0302-766X
PUBLISHER: Springer-Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Immunocytochem. methods with an antiserum against neuronal nitric oxide synthase (NOS) were applied to identify the morphol. and synaptic connectivity of NOS-like immunoreactive neurons in the guinea pig retina. In the present study, two types of amacrine cells were labeled with anti-NOS antisera. Type 1 cells had large somata located in the inner nuclear layer (INL) with long, sparsely branched processes ramifying mainly in stratum 3 of the inner plexiform layer (IPL). The somata of type 2 cells (smaller diam.) were located in the INL. Some displaced amacrine cells in the ganglion cell layer were labeled. The soma size of the displaced amacrine cells was similar to that of the type 2 amacrine cells. However, processes originating from type 2 amacrine cells and displaced amacrine cells stratified mainly in strata 1 and 5, resp. Some cone bipolar cells were weakly NOS-immunoreactive. The synaptic connectivity of NOS-like immunoreactive amacrine cells was identified in the IPL by electron microscopy. NOS-labeled amacrine cell processes received synaptic input from other amacrine cell processes and bipolar cell axon terminals in all strata of the IPL. The most frequent postsynaptic targets of NOS-immunoreactive amacrine cells were other amacrine cell

processes. Cone bipolar cells were postsynaptic to NOS-labeled amacrine cells in all strata of the IPL. Labeled amacrine cells synapsing onto ganglion cells were found only in sublamina b. A few synaptic contacts were observed between labeled cell processes. In the outer plexiform layer, dendrites of labeled bipolar cells made basal contact with cone pedicles or formed a synaptic **triad** opposed to a synaptic ribbon of cone pedicles.

REFERENCE COUNT: 62 THERE ARE 62 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 42 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1999:278854 HCAPLUS Full-text

DOCUMENT NUMBER: 131:59159

TITLE: The effect of AlR3 on propylene polymerization by rac-(EBI)Zr(NMe2)2/AlR3/[CPh3][B(C6F5)4] catalyst

AUTHOR(S): **Kim, Il**; Choi, Chang-Soo

CORPORATE SOURCE: Department of Chemical Engineering, The University of Ulsan, Ulsan, 680-749, S. Korea

SOURCE: Journal of Polymer Science, Part A: Polymer Chemistry (1999), 37(10), 1523-1539
CODEN: JPACEC; ISSN: 0887-624X

PUBLISHER: John Wiley & Sons, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Ansa-zirconocene diamide complex rac-(EBI)Zr(NMe2)2 [rac-1, EBI = ethylene-1,2-bis(1-indenyl)] reacted with AlR3 (R = Me, Et, iBu) or Al(iBu)2H and then with [CPh3][B(C6F5)4] (2) in toluene in order to perform propylene polymerization by cationic alkylzirconium species, which are in situ generated during polymerization. Through the sequential NMR-scale reactions of rac-1 with AlR3 or Al(iBu)2H and then with 2, rac-1 was demonstrated to be transformed to the active alkylzirconium cations via alkylated intermediates of rac-1. The cationic species generated by using AlMe3, AlEt3, and Al(iBu)2H as alkylating reagents tend to become heterodinuclear complex; however, those generated by using bulky Al(iBu)3 become base-free [rac-(EBI)Zr(iBu)]⁺ cations. The activity of propylene polymerization by rac-1/AlR3/2 catalyst was deeply influenced by various parameters such as the amount and the type of AlR3, metallocene concentration, [Al]/[2] ratio, and polymerization temperature. Generally the catalytic systems using bulky alkylaluminum like Al(iBu)3 and Al(iBu)2H show higher activity but lower **stereoregularity** than those using less bulky AlMe3 and AlEt3. The alkylating reagent Al(iBu)3 is not as good a transfer agent as AlMe3 or AlEt3. The polymerization activities show maximum around [Al]/[2] ratio of 1.0 and increase monotonously with polymerization temperature. The overall activation energy of both rac-1/Al(iBu)3/2 and rac-1/Al(iBu)2H catalysts is 6.0 kcal/mol. As the polymerization temperature increases, the **stereoregularity** of the resulting polymer decreases markedly, which is demonstrated by the decrease of [mmmm] pentad value and by the increase of the amount of polymer soluble in low boiling solvent. The phys. properties of polymers produced in this study were investigated by using ¹³C-NMR, differential scanning calorimetry (DSC), viscometry, and gel permeation chromatog. (GPC).

REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 43 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1999:202021 HCAPLUS Full-text

DOCUMENT NUMBER: 130:264913

TITLE: Chromosome analysis by fluorescence in situ hybridization of callus-derived regenerants in *Allium cyaneum*

AUTHOR(S): **Lee, S. H.**; Ryu, J. A.; Do, G. S.; Seo, B. B.; Pak, J. H.; **Kim, I. S.**; Song, S. D.

CORPORATE SOURCE: Department Biology, Kyungpook National University,
Taegu, 702, S. Korea
SOURCE: Plant Cell Reports (1998), 18(3-4), 209-213
CODEN: PCRPD8; ISSN: 0721-7714
PUBLISHER: Springer-Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Investigations were performed to confirm the optimal in vitro culture conditions for callus induction and plant regeneration, to observe if somaclonal variation occurs among regenerated plants at the ploidy level and to analyze the chromosomal location of 5S and 18S-26S rRNA gene families using fluorescence in situ hybridization in callus-derived plants of *Allium cyaneum*. Highest callus initiation was achieved with bulb explants cultured on MS medium supplemented with 2,4-D and BAP at 1 mg L⁻¹ each. A total of 195 plants was obtained when using MS medium supplemented with 1 mg L⁻¹ NAA and 5 mg L⁻¹ BAP; about 92% were diploid having 2n = 16; 8% showed a variation in ploidy level. Using digoxigenin-labeled 5S rRNA and biotin-labeled 18S-26S rRNA gene probes, the fluorescence in situ hybridization patterns of autotetraploid plants were compared with the *A. cyaneum* wild type. The 5S rRNA gene sites were detected on the interstitial region in the short arm of chromosome 4 and on the interstitial region in both arms of chromosome 7. The 18S-26S rRNA gene sites were detected on the terminal region of the short arm, including the satellite of chromosome 5, as well as on a part of chromosome B. The chromosomal location of both rRNA genes in regenerated autotetraploid plants corresponded to those of the wild species.

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 44 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1999:153171 HCAPLUS Full-text

DOCUMENT NUMBER: 130:282405

TITLE: Kinetics of propylene polymerization initiated by rac-Me₂Si(1-C₅H₂-2-Me-4-tBu)₂Zr(NMe₂)₂/MAO catalyst

AUTHOR(S): **Kim, Il**; Zhou, Jia-Min; Won, Mi-Sook

CORPORATE SOURCE: Department of Chemical Engineering, The University of Ulsan, Ulsan, 680-749, S. Korea

SOURCE: Journal of Polymer Science, Part A: Polymer Chemistry (1999), 37(6), 737-750

CODEN: JPACEC; ISSN: 0887-624X

PUBLISHER: John Wiley & Sons, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The kinetics of propylene polymerization initiated by ansa-metallocene diamide compound rac-Me₂Si(CMB)₂Zr(NMe₂)₂ (rac-1, CMB = 1-C₅H₂-2-Me-4-tBu)/methyl aluminoxane (MAO) catalyst were investigated. The formation of cationic active species has been studied by the sequential NMR-scale reactions of rac-1 with MAO. The rac-1 is first transformed to rac-Me₂Si(CMB)₂ZrMe₂ (rac-2) through the alkylation mainly by free AlMe₃ contained in MAO. The methylzirconium cations are then formed by the reaction of rac-2 and MAO. Small amount of MAO ([Al]/[Zr] = 40) is enough to completely activate rac-1 to afford methylzirconium cations that can polymerize propylene. In the lab-scale polymns. carried out at 30°C in toluene, the rate of polymerization (Rp) shows maximum at [Al]/[Zr] = 6,250. The Rp increases as the polymerization temperature (Tp) increases in the range of Tp between 10 and 70°C and as the catalyst concentration increases in the range between 21.9 and 109.6 μM. The activation energies evaluated by simple kinetic scheme are 4.7 kcal/mol during the acceleration period of polymerization and 12.2 kcal/mol for an overall reaction. The introduction of addnl. free AlMe₃ before activating rac-1 with MAO during polymerization deeply influences the polymerization behavior. The isotactic polypropylenes obtained at various conditions are characterized by

high m.p. (approx. 155°C), high **stereoregularity** (almost 100% [mmmm] pentad), low mol. weight (MW), and narrow mol. weight distribution (below 2.0). The fractionation results by various solvents show that isotactic polypropylenes produced at TP below 30°C are compositionally homogeneous, but those obtained at TP above 40°C are separated into many fractions.

REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 45 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1999:49265 HCAPLUS Full-text

DOCUMENT NUMBER: 130:168788

TITLE: High-yield polymerization process for stereospecific α -olefin polymers

INVENTOR(S): Roh, Ki-Soo; **Kim, Il-Sup**; Yang, Choon-byung; Park, Yoon-Suk

PATENT ASSIGNEE(S): Samsung General Chemical Co., S. Korea

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11012314	A2	19990119	JP 1998-126519	19980508
JP 2971440	B2	19991108		
US 6066702	A	20000523	US 1998-74079	19980507
			KR 1997-17650	A 19970508

PRIORITY APPLN. INFO.:

AB The title process is characterized by (co)polymerizing α -olefins in the presence of catalysts comprising (a) solid complexes mainly prepared from (a1) Ti compds. containing Mg and halogens and (a2) internal electron donors, (b) Group I or III organometals, and (c) ≥ 3 organic Si compds. as external electron donors, where homopolymers prepared by the Si compds. in the same polymerization conditions satisfy melt flow rate (MFR) < 5 , $5-20$, and ≥ 20 , resp. Thus, propylene was polymerized using a catalyst comprising 0.02 mmol (calculated as Ti) solid component prepared from MgCl_2 , TiCl_4 , and monoethylene glycol dibenzoate, 10 mmol $\text{Al}(\text{Et})_3$, 0.1 mmol dicyclopentyldimethoxysilane, 0.8 mmol cyclohexylmethyldimethoxysilane, and 0.1 mmol vinyltriethoxysilane to give a polypropylene showing M_w/M_n 6.9, MFR 6.3 g/10 min, boiling-heptane extraction residue 98.0%, and polymerization activity 3.7 kg/g-h.

L37 ANSWER 46 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:645319 HCAPLUS Full-text

DOCUMENT NUMBER: 129:331088

TITLE: Syndioselective propylene polymerization: comparison of $\text{Me}_2\text{C}(\text{Cp})(\text{Flu})\text{ZrMe}_2$ with $\text{Et}(\text{Cp})(\text{Flu})\text{ZrMe}_2$

AUTHOR(S): **Kim, Il**; Kim, Ki-Tae; Lee, Min Hyung; Do, Youngkyu; Won, Mi-Sook

CORPORATE SOURCE: Department of Chemical Engineering, University of Ulsan, Ulsan, 680-749, S. Korea

SOURCE: Journal of Applied Polymer Science (1998), 70(5), 973-983

CODEN: JAPNAB; ISSN: 0021-8995

PUBLISHER: John Wiley & Sons, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The kinetics and stereochem. control of propylene polymerization initiated by syndiospecific isopropylidene(1- η 5-cyclopentadienyl)(1- η 5-fluorenyl)-dimethylzirconium-Me aluminoxane (I/MAO) and (1-fluorenyl-2-cyclopentadienylethane)-dimethylzirconium-MAO (II/MAO) were investigated. The influence of MAO concentration and polymerization temperature (Tp) on polymerization kinetics and polypropylene properties, such as mol. weight, mol. weight distribution (MWD), and stereoselectivity, have been studied in detail. The activity of both catalytic systems is very sensitive to the concentration of MAO. The I/MAO and II/MAO catalysts record maximum activity when [Al]/[Zr] ratio is around 1300 and 2500, resp. The activity and the degree of stereochem. control are also sensitive to Tp. The II/MAO catalyst is much more thermally stable than I/MAO catalyst; the former shows maximum activity at 80°C, whereas the latter shows maximum activity at 20°C. The cationic active species generated by II/MAO is not so stereorigid as those by I/MAO so that II/MAO catalyst produces sPP of broad MWD (4.43-6.38) and low syndiospecificity at high Tp. When Tp is above 50°C, II/MAO catalyst produces completely atactic polypropylene. The results of fractionation of sPP samples produced by I/MAO and II/MAO demonstrate that I/MAO catalyst is characterized by uniform active sites, but II/MAO is characterized by multiple active sites.

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 47 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:323683 HCAPLUS Full-text

DOCUMENT NUMBER: 129:28517

TITLE: Thermal behavior of **syndiotactic** polypropylene/atactic polypropylene blends

AUTHOR(S): **Kim, IL**; Lee, Sun Woo; Kim, Young Tae

CORPORATE SOURCE: Dep. Chem. Eng., Univ. Ulsan, Ulsan, 680-749, S. Korea

SOURCE: Polymer (Korea) (1998), 22(2), 240-250

CODEN: POLLDG; ISSN: 0379-153X

PUBLISHER: Polymer Society of Korea

DOCUMENT TYPE: Journal

LANGUAGE: Korean

AB Various **syndiotactic** polypropylene (sPP)/atactic polypropylene (aPP) blends (90/10, 80/20, and 60/40) were prepared by solution blending and were characterized by ¹³C-NMR, IR, x-ray diffraction, DSC, and TGA anal. The crystallinity of the blend decreases with increasing aPP content. Neat sPP and its blends show double melting peaks representing polymorphism. The number and the area ratio of each peak are dependent on thermal history of the sample. The equilibrium melting temperature of neat sPP is 152.6°, and those of the blends are 151.5, 150.8, and 147.5°, resp.

L37 ANSWER 48 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:271641 HCAPLUS Full-text

DOCUMENT NUMBER: 129:63794

TITLE: Cloning of the ribosomal protein L41 gene of *Phaffia rhodozyma* and its use as a drug resistance marker for transformation

AUTHOR(S): **Kim, I. -G.**; Nam, S. -K.; Sohn, J. -H.; Rhee, S. -K.; An, G. -H.; **Lee, S. -H.**; Choi, E. -S.

CORPORATE SOURCE: Applied Microbiology Research Division, Korea Research Institute of Bioscience and Biotechnology, Taejeon, 305-600, S. Korea

SOURCE: Applied and Environmental Microbiology (1998), 64(5), 1947-1949

CODEN: AEMIDF; ISSN: 0099-2240

PUBLISHER: American Society for Microbiology

DOCUMENT TYPE: Journal
LANGUAGE: English

AB The ribosomal protein L41 gene of *Phaffia rhodozyma* was cloned and used as a dominant selectable marker for cycloheximide resistance in the transformation of *P. rhodozyma*. Electrotransformation with a plasmid containing a ribosomal DNA fragment as a targeting signal typically yielded 800 to 1,200 transformants/ μ g of DNA with an integrated copy number of about seven per haploid genome.

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 49 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:263471 HCAPLUS Full-text

DOCUMENT NUMBER: 128:322006

TITLE: Copolymerization of propene and 1-hexene with isospecific and syndiospecific metallocene catalysts

AUTHOR(S): **Kim, Il**; Kim, Young Jae

CORPORATE SOURCE: Department Chemical Engineering, University Ulsan, Ulsan, 680, S. Korea

SOURCE: Polymer Bulletin (Berlin) (1998), 40(4-5), 415-421
CODEN: POBUDR; ISSN: 0170-0839

PUBLISHER: Springer-Verlag

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Copolymn. of propene and 1-hexene was carried out in toluene at 30° in the presence of homogeneous methylaluminoxane (MAO)-activated 3 ansa-metallocenes, highly syndiospecific *i*Pr(Cp)(Flu)ZrMe₂ (I), lower syndiospecific Et(Cp)(Flu)ZrMe₂ (II), and isospecific *rac*-(EBTHI)ZrMe₂ (III), in order to study the role of catalyst stereospecificity on comonomer incorporation. The incorporation of 1-hexene decreases in the following order: I/MAO > II/MAO > III/MAO catalyst. All copolymer chains contain the comonomer in nearly random distribution. The copolymers produced by I/MAO and III/MAO catalysts were composed of uniform chains, but that by II/MAO was fractionated into many fractions in the solvent extraction. Considerable rate enhancements were recorded in the copolymn. when the feed ratio of 1-hexene to propene is ≈ 0.6 for all catalysts.

L37 ANSWER 50 OF 50 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1996:720631 HCAPLUS Full-text

DOCUMENT NUMBER: 126:13899

TITLE: Nuclear magnetic resonance in a metal cylinder using an RF eddy current

AUTHOR(S): **Lee, S-H.**; **Kim, I-K.**

CORPORATE SOURCE: Department Physics, Yonsei University, Seoul, 120-749, S. Korea

SOURCE: Journal of the Korean Physical Society (1996), 29(4), 511-514

CODEN: JKPSDV; ISSN: 0374-4884

PUBLISHER: Korean Physical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The authors report a new NMR probe for use inside a metal cylinder. This probe uses the radiofrequency field from the eddy current. The eddy current, due to an radiofrequency solenoid in a uniform conducting cylinder, flows on the inside surface of the cylinder and generates a homogeneous radiofrequency field that fills a maximum volume in the cylinder. The authors obtained an radiofrequency field homogeneity $\Delta H/H$ of ≈ 0.025 . The characteristics of the induced eddy current and its radiofrequency field inside a metal

cylinder were analyzed. Also, if the solenoid diameter is 0.707 of the cylinder diameter, the superposition of the radiofrequency fields from the solenoid and from the eddy current results in a homogeneous field everywhere. This allows NMR expts. with samples occupying space both outside and inside the solenoid.